FREIGHT TRAFFIC ISSUE: INSULITE'S 'OPERATION SERVICE' p. 84 MARCH 28, 1966

RAILWAY AGE
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p. 56

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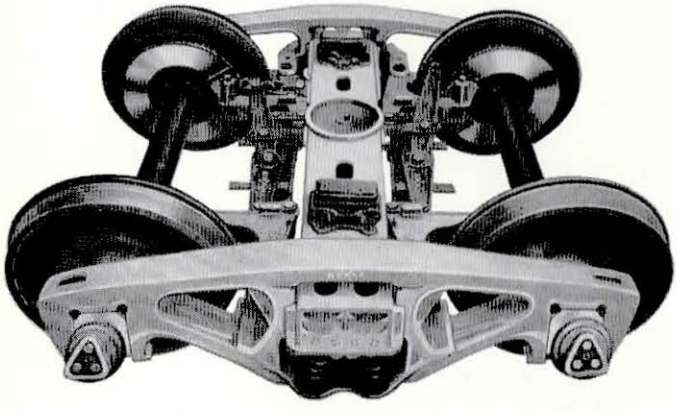
smooth...soft...
BRAKING...

with BUFFALO'S DISC BRAKE



Change is the big word in railroading today.

You see it everywhere in cars, locomotives, new communications and data systems, automated maintenance equipment.

Buffalo disc Brake-X is the new concept for modern freight car braking.

This simple, mechanical single disc design has set outstanding records in smooth, positive braking, high-mileage operation and low-cost maintenance.

Buffalo's disc brake is ideal for your special, high-capacity cars and unit trains.

Write for detailed performance records.

BUFFALO BRAKE BEAM COMPANY

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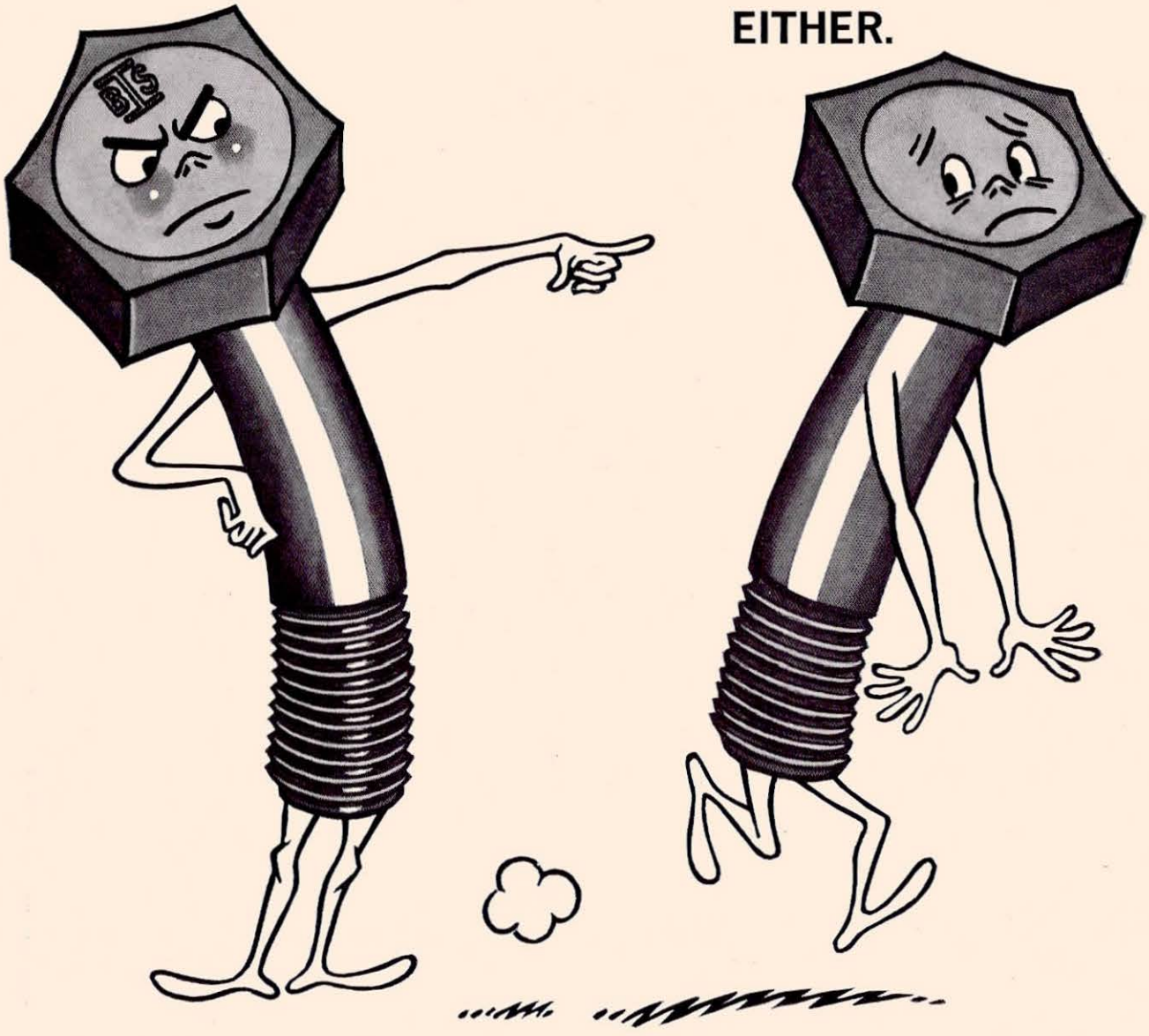
YOU CAN'T PUT MUCH FAITH IN ANONYMOUS LETTERS.

NOR IN ANONYMOUS FASTENERS, EITHER.



Bethlehem stands behind the quality and workmanship
of its fasteners . . . That's why they bear the BS mark.
It's our symbol of quality . . .
and your assurance of *B*etter *S*ervice.

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Steel

Steel for Strength

BETHLEHEM STEEL

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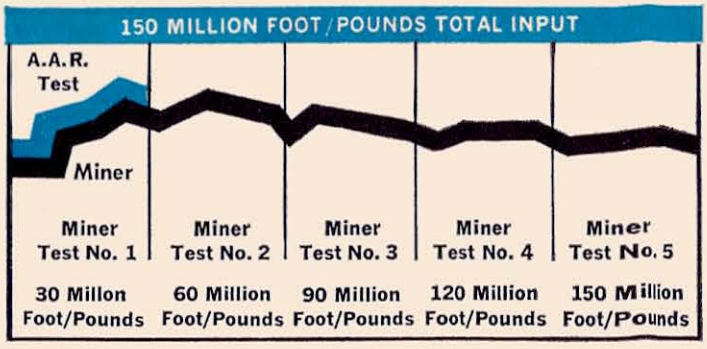
MINER'S RF-361 Provides It!

Miner's RF-361 Draft Gear is UNCONDITIONALLY APPROVED for 24⅝" pockets. It meets the very latest A.A.R. Specifications M-901 E-59, which call for increased capacity endurance and sturdiness. Built-in reliability is assured due to Miner improved metallurgy. For the most effective protection to your lading and equipment, insist on Miner's RF-361.

Pretesting of Miner's RF-361 Gear in accordance with the very latest A.A.R. Specifications M-901 E-59, showed it would withstand five (not one) full endurance and sturdiness tests.



W. H. MINER, INC., CHICAGO

International Operations: Washington, D. C.

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RAILWAY AGE

March 28, 1966 • Vol. 160, No. 12

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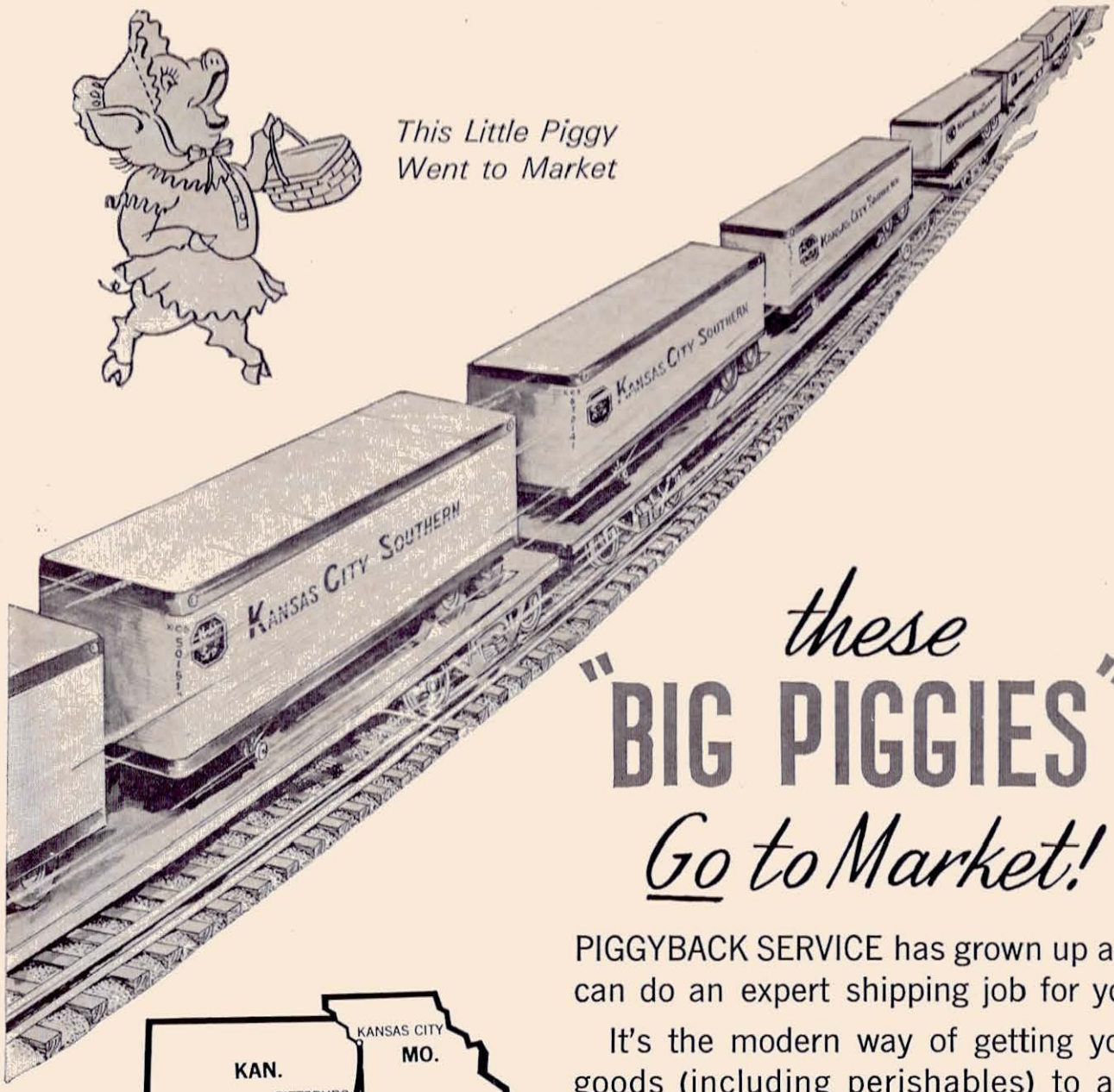
This Little Piggy Went to Market

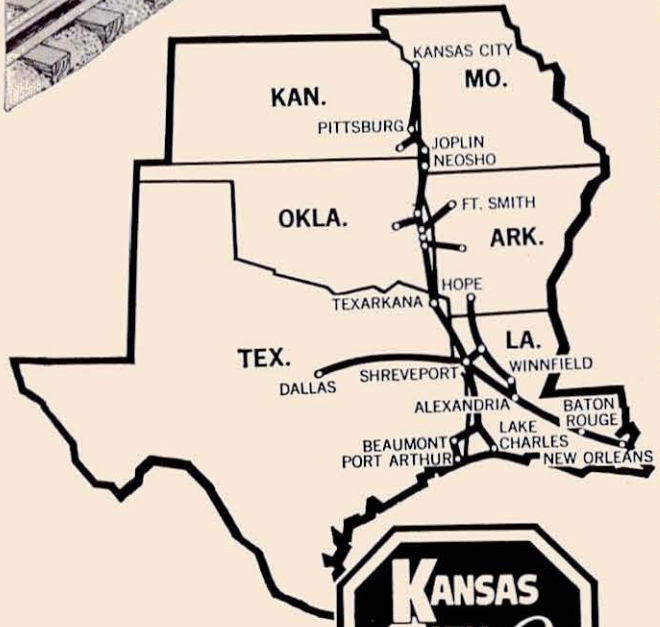


these "BIG PIGGIES" *Go to Market!*

PIGGYBACK SERVICE has grown up and can do an expert shipping job for you.

It's the modern way of getting your goods (including perishables) to and from your place of business with savings in time and money!

Any Kansas City Southern traffic representative will be pleased to consult with you, or call upon me.



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KANSAS CITY SOUTHERN *Lines*

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SHORT AND SIGNIFICANT

Court bars strike by ORC&B against GN

A walkout by the Order of Railway Conductors & Brakemen against Great Northern over a lodging-away-from-home dispute has been blocked by a U.S. District judge, on grounds that the controversy is a minor one, not a major dispute, under terms of the Railway Labor Act. Judge Gunnar Nordbye issued a temporary restraining order in the case; further court proceedings aren't expected to take place for some time.

●

Alton & Southern: A competing bid comes in

Cotton Belt wants to buy Alton & Southern from its owner, Alcoa. And so, now, does Missouri Pacific. Cotton Belt has filed application with the ICC for authority to purchase the road for $16 million. Now, MoPac is filing application and matching the price tag. Missouri Pacific says it's "the largest connection of the A&S and . . . proposes to purchase A&S properties and operate them as an independent switching line, providing equal service for all parties on equal terms." MoPac also points out that other line-haul roads serving the St. Louis area might want to have a share of A&S and says that it "would have no objection to joint participation and ownership with it of such other line-haul carrier or carriers as seek to be included and are approved by the ICC."

●

Utopia is a thing called stability

Somewhere there is a promised land for railroad suppliers—and Gulf, Mobile & Ohio President Glen P. Brock would like to see them reach it. Brock, talking to purchases and stores men at the AAR P&S Division's Southern Region meeting, called for new efforts to even out the peaks and valleys of railroad buying—for the benefit of both the carriers and the suppliers. If railroads could stay in the market consistently, with, perhaps, contract purchases covering a number of years, he said, suppliers could be assured of a steady production flow and railroads would be assured of a better product at a better price. GM&O's president wound up his proposal with this comment: "We operate in a buyer's market, but we buy in a seller's market . . . we can't do a good job of selling ourselves unless we first do a good job of buying."

●

ICC will help truckers offset rail-car shortage . . .

The ICC is taking railroad car shortages into account as it appraises trucker applications for emergency temporary operating authority. The Commission announced this last week, meanwhile expressing hope that the AAR can do more than it has done about the car situation. The only real solution, the Commission advised, is more efficient utilization, and spending more of the present large car-buying outlays for cars in short supply.

. . . and railroads given prescription for fast relief

The Commission says its proposals can be implemented "quickly and effectively, and the acute situation will be greatly relieved when they are done." As to present utilization practices, it complained that "thousands" of cars are held at the ports, used for storage by shippers, and held by railroads in the hope of getting business. The Commission's statement came March 22 when it modified some of the service orders it had issued earlier to expedite car movements (RA, Mar. 21, p. 12). Among such orders is No. 978 to establish Commission car service rules. This drew vigorous protest and its effective date has been postponed indefinitely.

MONDAY MORNING REPORT

R&D: Whose chips do you play with?

"Research and development" is a stylish phrase in the Great Society vocabulary. Politicians, professors and others talk about the "backwardness" of rail industry R&D, implying (if not openly declaring) that reactionary ideas make the difference between the aerospace industry, the airlines and the railroad industry. Truth of the matter is railroads and railroad suppliers, however, are probably as R&D-conscious as any industry that has to finance its way into the future with its own cash—sans government handouts.

Railroad R&D is a 'delayed-payoff' game

Railroads operate under a burden of interchangeability requirements, rules, federal requirements for the handling of many commodities, commercial relationships and economic pressures. They have also been victims of government promotion policies (which favored other transport modes with floods of taxpayers' cash) and have been singled out for repressive regulation that smothered investor interest and hobbled industry progress in the last several decades. Railroads are rarely able to make straight-line decisions from product to practice. Even a sound development put forward by a supplier after expensive R&D faces a tortuous trip toward payoff. The massiveness of the industry confronts innovators with a mountainous previous investment that has to be used up before radical changes can be made. Despite this fact, an astonishing amount of money is spent toward just this kind of betterment—even though payoff may be years away for the people sitting in on this kind of R&D poker.

The 'iffy' nature of R&D

As a case in point, consider the $3 million or $4 million already spent by Linde Division of Union Carbide to research and develop the refrigeration system introduced at Chicago early this month (RA, Jan. 31, p. 27). The system uses liquid nitrogen, and Linde says it will revolutionize handling of perishable commodities by railroads. Whether it does or not (and there are railroad men who need to be convinced that it is better than mechanical refrigeration) Linde has got a whopping investment and five years' work wrapped up in the device.

Industry consensus is tough to come by

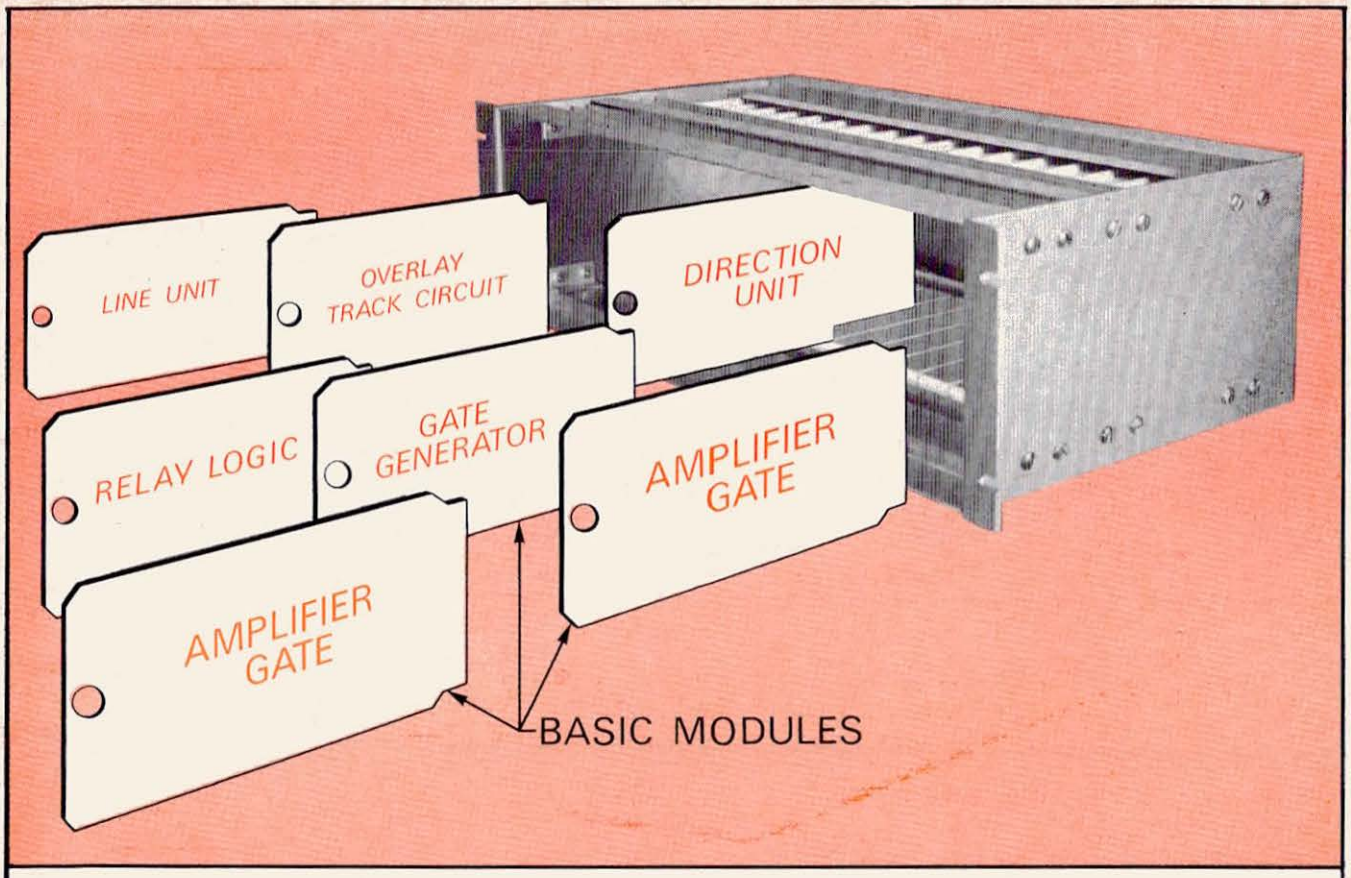
Large though the Linde commitment is, it is peanuts compared to the billion-or-so dollars invested in the 105,000 reefers already handling perishable commodities. But, still, Linde has some reason for the expensive gamble. L&D-prevention specialists are interested because the liquid nitrogen system does not dehydrate cargo (a matter of great importance to meat packers) and because the system's inert, low-oxygen atmosphere reduces the respiration-rate of perishables, a factor of importance in controlling rate of decay in transit. Mechanical officers are interested because the system has only one moving part and would, in theory at least, eliminate servicing facilities now existing for mechanical refrigeration systems.

Ultimate decisions include worry about future change

But, even these mechanical-service-economic factors don't end Linde's risk. Santa Fe, Denver & Rio Grande Western and Pacific Fruit Express (who have been cooperating with Linde in road tests) and other roads making equipment decisions in the months ahead also worry about technology that could come along and be even better over-all than the liquid nitrogen systems. Linde, for example, admits it has R&D going on even more exotic atmospheres.

How do you short-circuit the process?

Critics of the R&D-pace of railroads and their suppliers might do well to abandon generalities and suggest how betterment can be quickened. Linde, for one, would be glad to listen.



HOT BOX DETECTION the way YOU want it

New Modular Wheel Thermo-Scanner Unit
FEATURES CUSTOM DESIGN
from Standard Modules

Now you can have a hot box detection system arranged to fit your needs precisely.

Designed around plug-in printed circuit board function modules, the new GRS Wheel Thermo-Scanner Unit can be arranged for:

- Single-direction scanning—or double-direction—on single or multiple track.
- Local readout—or remote—with pen recorder or with printout. Provision for wayside signal control is also included.
- Transmission via d-c line, frequency modulated tones, or suppressed carrier single-sideband.
- Start control by regular track circuit or by wheel detectors clamped to the rails.

Besides flexibility in application, now and in the future, you gain: reduced parts inventory, easier maintenance, and all the quick change advantages of plug-in modules.

MODERN DESIGN FEATURES

Any combination of functions is available by simple selection of plug-in circuit boards.

Miniature application relays on plug-in board.

Approach detector track circuit complete on plug-in boards.

Enclosure wiring on printed circuit back boards—eliminates need for all but a few jumper wires.

The system operates directly from 24-volt battery or from 117-volts a-c.

Compact—a complete system enclosure measures only 5¼ inches high by 19 inches wide and fits in a standard communications rack.

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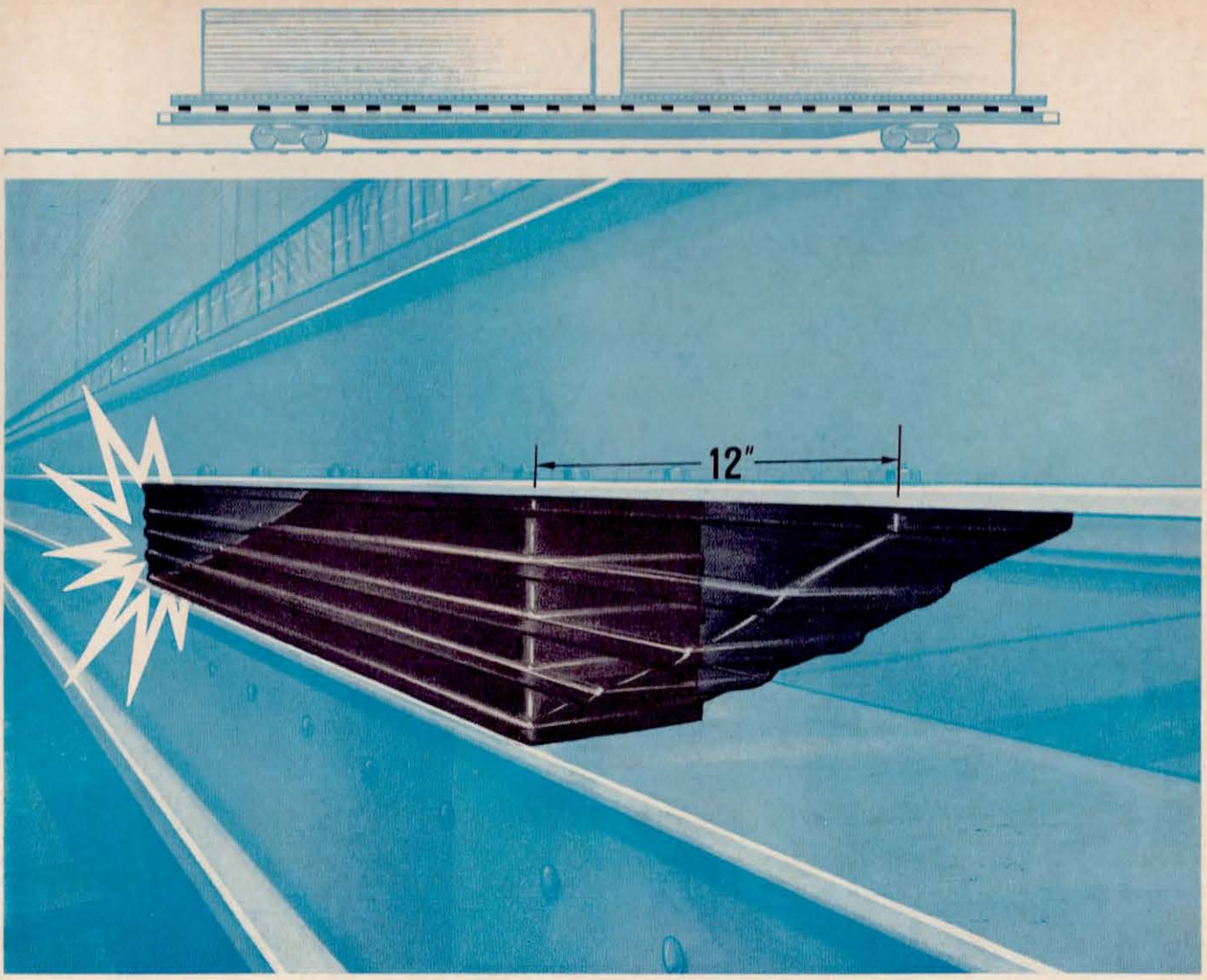

12-inch motion of Dyna-deck mountings (below) introduces new concept of shock control for COFC cars (top).

New shock cushioning system for containerized freight provides 12-inch travel

Containerized lading can now have shock protection equivalent to that of piggyback trailers.

The means: our patented Dyna-deck® shock control system with large deflection capability. Provides 12 inches of travel in either direction.

Simplest available system

The Dyna-deck system is an efficient answer to many shock cushioning problems. For simplicity, economy and long service life, it employs mountings made of *rubber with a backbone of steel.*

Installed between car frame and deck, Dyna-deck mountings carry heavy loads, reduce damaging impacts and protect lading.

Five other advantages

Other system features include:

- Ease of installation.
- No maintenance, lubrication or wear surfaces.
- All-weather protection.
- All-direction flexibility controls vertical vibration and lateral shock as well as longitudinal impacts.
- Durable materials resist weather and temperature extremes, grit and grime.

The outstanding performance of Lord shock control systems has been proved by years of railroad service.

For information on protecting your containerized freight, write: *Lord Manufacturing Company, Division of Lord Corporation, Erie, Pa. 16512. Field Engineering Offices in principal cities. In Canada: Railway & Power Engineering Corp., Ltd.*

The leader in vibration/shock/noise control

LORD®

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WEEK AT A GLANCE

C&O-B&O plan to do some heavy spending

Encouraged by a continuing series of healthy financial statements, the Chesapeake & Ohio and Baltimore & Ohio last week announced plans to spend $175 million this year to improve the systems. Topping the shopping list will be orders for 11,150 freight cars and 36 diesel locomotives. The purchasing plans were revealed in the roads' annual report sent out to shareholders. Summarizing 1965, the report said: "Business was good for C&O-B&O. Combined revenues of $797 million were 5½% higher than 1964's. Consolidated earnings rose to $65 million. Operating expenses were higher, reaching $599 million. Wage increases brought payrolls up to $385.3 million, and the average wage to $7,552, a new high."

The two roads reported that last year they moved 2.7 million carloads of freight, bringing in operating revenues of $451 million—up $37 million over 1964. They carried 30,000 carloads of automobiles and registered a $7 million increase in piggyback revenues, hitting $28.5 million. This year, the two roads expect TOFC revenues to top $35 million.

Last year, the two roads spent $2.5 million to equip 16 terminals, 500 locomotives and 167 cabooses with radio communications. For additional communications and signaling systems, they expect to spend $6.8 million this year.

REA Express sees 'disaster' in parcel post bill

The Post Office Department is hard put these days to find a friend in the transportation world. The airlines, truckers and railroads have a variety of bones to pick with the department, and now REA Express has come along with a serious beef of its own. The express company is alarmed over proposed federal legislation that would expand the present size and weight limits on parcel post. If the bill is passed—hearings are now under way—REA would be insolvent in six months, says its president, William B. Johnson. The only alternatives, he added, would be a federal subsidy or nationalization of the company.

Johnson testified last week before the House Subcommittee on Postal Rates. He told the group that the great expansion in size and weight of packages would divert up to 42% of REA's surface shipments and 27%, or $120.3 million, of its total revenues. And this, he said, "would be disastrous."

The proposed legislation causing the furor would increase the parcel weight to 40 pounds between all first class post offices—double that of the 20 pounds now in effect to the 3rd and 8th parcel post zones. It would increase the size limits to 100 inches (length and girth combined) from the present 72 inches, between all first class post offices, thus boosting the permissible cubic volume by 170%. The Post Office aim is to cut parcel post deficits by increasing traffic.

Squeezing the transit dollar

What happens to federal mass-transit aid when the present program expires in 1967? The Housing Subcommittee of the House Banking & Currency Committee began hearings last week on bills that would keep the program going, or even expand it slightly: H.R. 13732 and H.R. 12946. New York City Transit Authority Commissioner John J. Gilhooley testified that there's a way to get more mileage out of federal money: use it for servicing debts on capital expenditures, instead of limiting it to straight capital grants, as it is now done. According to Gilhooley, federal aid, which so far has averaged $117 million a year, could, if used that way, finance $2.5 billion in capital spending by transit systems. Others testifying at the hearings were Nils Lennartson, President of the RPI, Mayor J. D. Braman of Seattle, George DeMent, Chairman of the Chicago Transit Authority and of the Institute for Rapid Transit, Evan Howell, General Counsel of the American Transit Association, John D. Morris, assistant vice president, PRR, and Gene Schaefer, Director of the WABCO Mass Transit Center located at Pittsburgh, Pa.

Passenger petition—the end of the road . . .

Anthony Haswell, the Chicago lawyer who has been pressing for reopening of the whole question of rail passenger service by the ICC, has been given a rebuff: the Commission turned down his request, and in effect closed the case. Last November, Haswell asked the ICC for a complete overhaul of its 1956-59 investigation of rail passenger deficits, and demanded that each railroad be made to submit a report of everything done or not done about intercity passenger service since 1959. The Commission held that reopening its old proceedings "would not add materially to pertinent information already in the possession of the Commission or increase significantly its understanding of the problem." Haswell had asked leave to reply to the AAR's reply to his initial brief; the ICC held that a reply to a reply is not permissible—and that was that.

. . . meanwhile, the PRR plans to ground a famed flyer

"We must take drastic action to reduce our staggering passenger deficit," PRR's Vice President of Operations D. E. Smucker said last week. Following through, the road notified the ICC it plans to discontinue the "Spirit of St. Louis" between New York and St. Louis on April 24. Feeling the pressure of passenger losses—$41.8 million last year, compared to $34.9 in 1964—the road hopes to save $2 million annually by the move. The schedule of the "Penn Texas" would be adjusted to provide overnight service on the route, using the name "Spirit of St. Louis" for that service.

GUS WELTY'S LINES ON LABOR

WELTY

PERSONNEL PROBLEMS don't belong alone to railroads. Unions have them, too, and on the solution to these problems may hinge a good part of the future of management-labor relations in the industry. Union people — some of them, at least — have what they regard as a legitimate complaint. It concerns raiding—not the kind that occurs when one union goes after another union's contracts, but the kind that involves management's picking off of men whom the unions regard as their up-and-coming officers.

UNION PEOPLE can get pretty bitter. Some of them think management deliberately sets out to destroy potential union leadership. Others—less given to the art of accusation or more willing to grant the benefit of doubts—haven't the same table-pounding approach to the problem, if it is really a problem.

THOSE WHO CHALLENGE management motives put the argument in harsh terms. They're convinced, or seem to be, that management is capable of pulling a promising employee from union ranks and offering him a supervisory job not because of his potential as a manager but because he might cause "trouble" if he's allowed to develop and move up in the union officialdom. Then, management's critics contend, the promising employee finds out that he really isn't going anywhere in management. He may eventually even wind up back in the ranks—but with his future usefulness to the union now wrecked or badly bent.

THE CONVERSATION that follows a declaration like this can get hot. First of all, many top union officers don't believe things like this happen with any frequency. They don't believe that management will deliberately set out to destroy union leadership. They give management credit for realizing that the course of future company-union relations depends upon good men continuing to move into positions of union leadership. More than that, they have the basic understanding that the same qualities that make a man a good union leader are among the qualities that make him a good management man.

IT IS A FACT, however, that unions are faced with serious problems in trying to assure that tomorrow's leadership will be gifted, as it will have to be. The political nature of a man's rise within a union's structure can be a handicap both to the man and to the union. So can the fact that management, often, can offer a good man a better future, faster, than can a union. More and more, however, brotherhood leadership seems to be recognizing these things. If certain problems can be handled, high-quality leadership can be maintained. For the sake of the industry and the organizations, it has to be.

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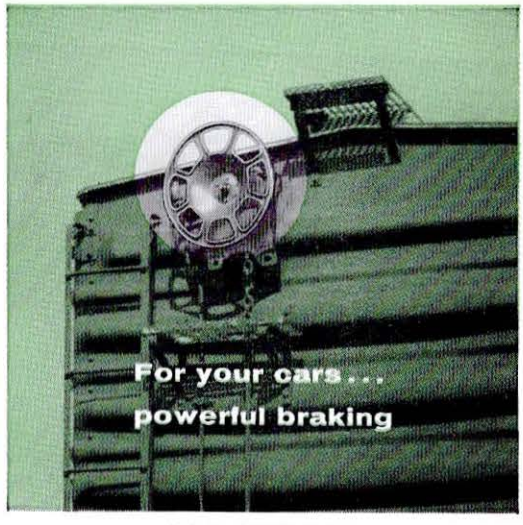
Universal®

TWO-WAY QUICK RELEASE NON-SPIN HAND BRAKE

This Universal Hand Brake assures quick and positive braking action with complete safety. A simple turn of the wheel in one direction sets the brake, and gradual release of the brake is easily achieved by a turn of the wheel in the opposite direction. The quick release lever is provided for instant Brake release. *Hand wheel doesn't spin when quick release lever is used, assuring safety.*

SPECIFY FOR SAFETY—SPECIFY UNIVERSAL!



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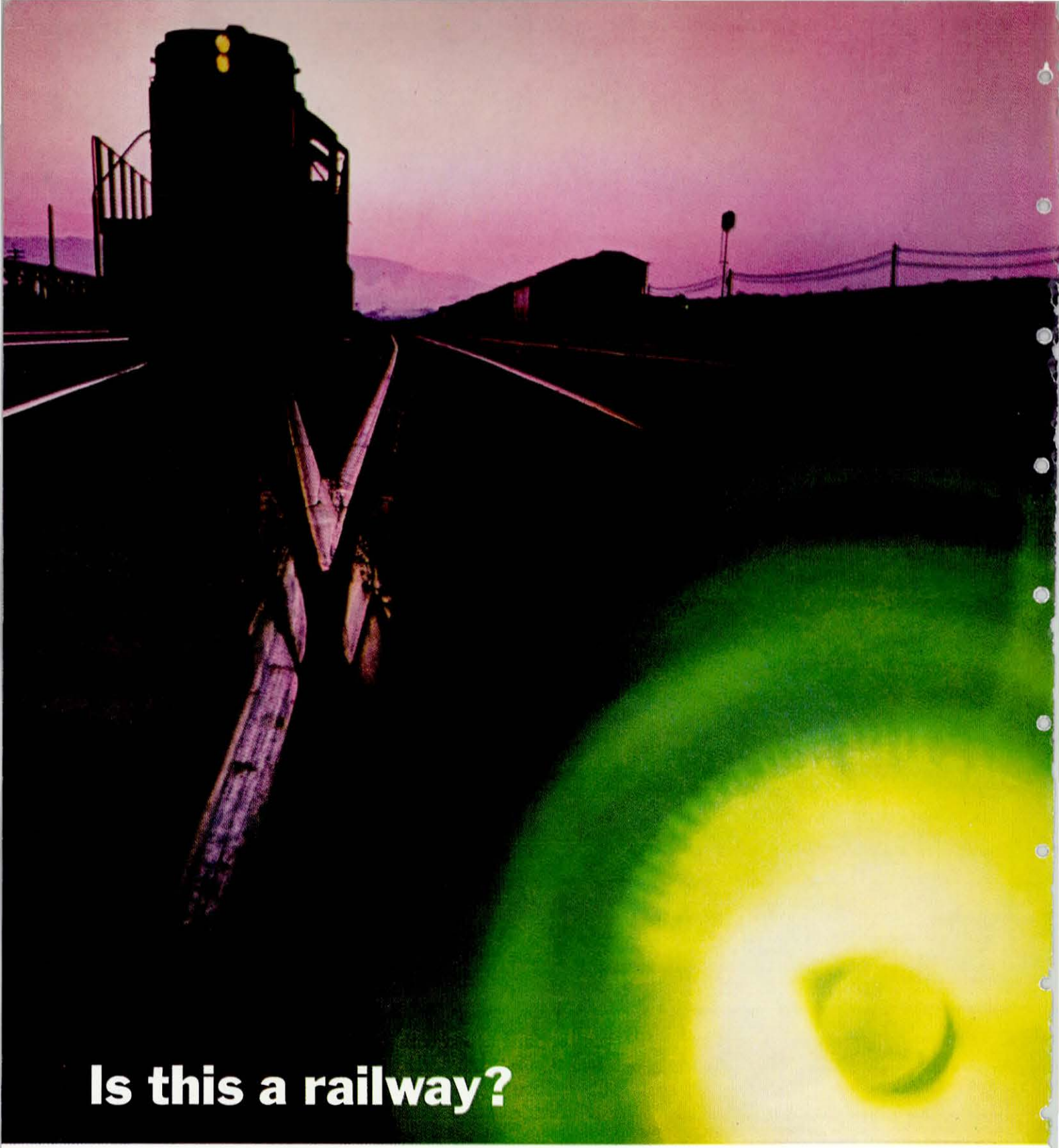
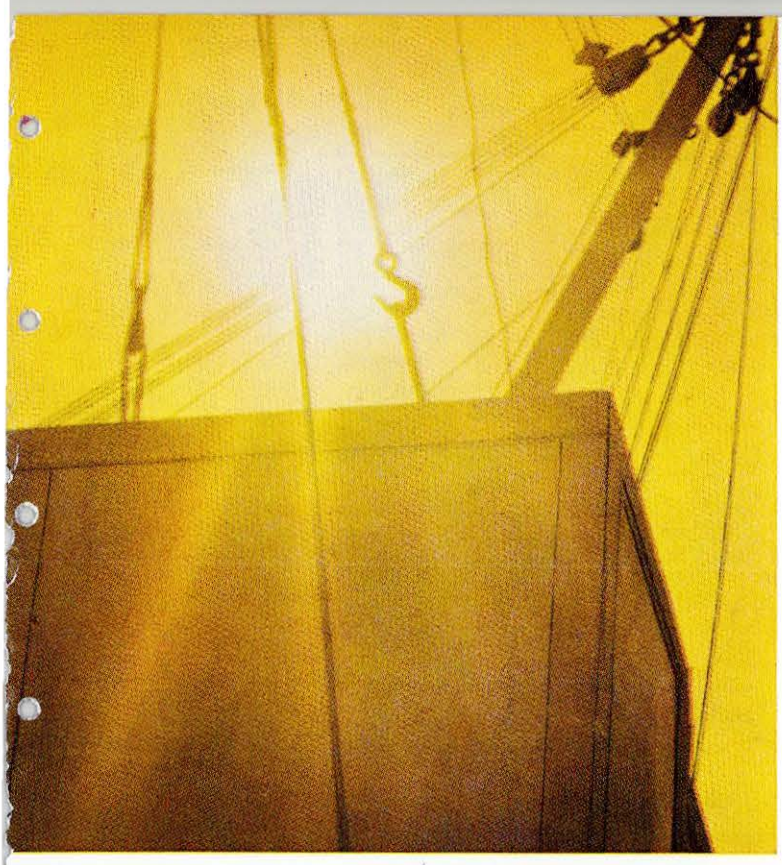
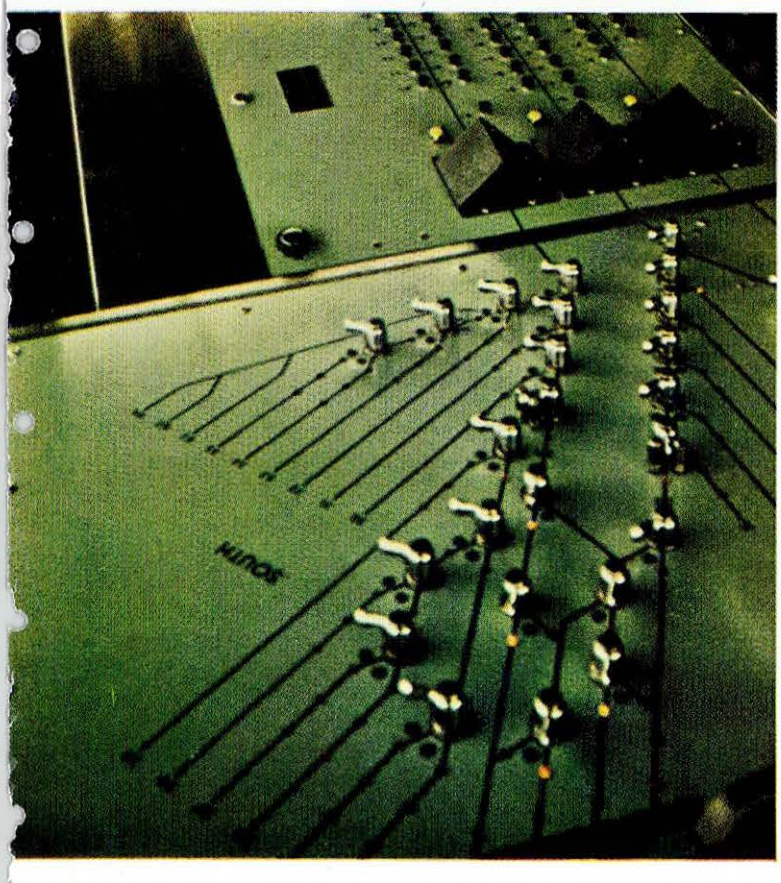


This is really a business logistics system.

A new kind of organization is rising to meet the needs of today's business. An organization that can counsel, plan and service the logistic requirements of industry.

A company that can cope with a sophisticated approach to every stage of movement of raw materials, handling and storing of components in production, packaging and total



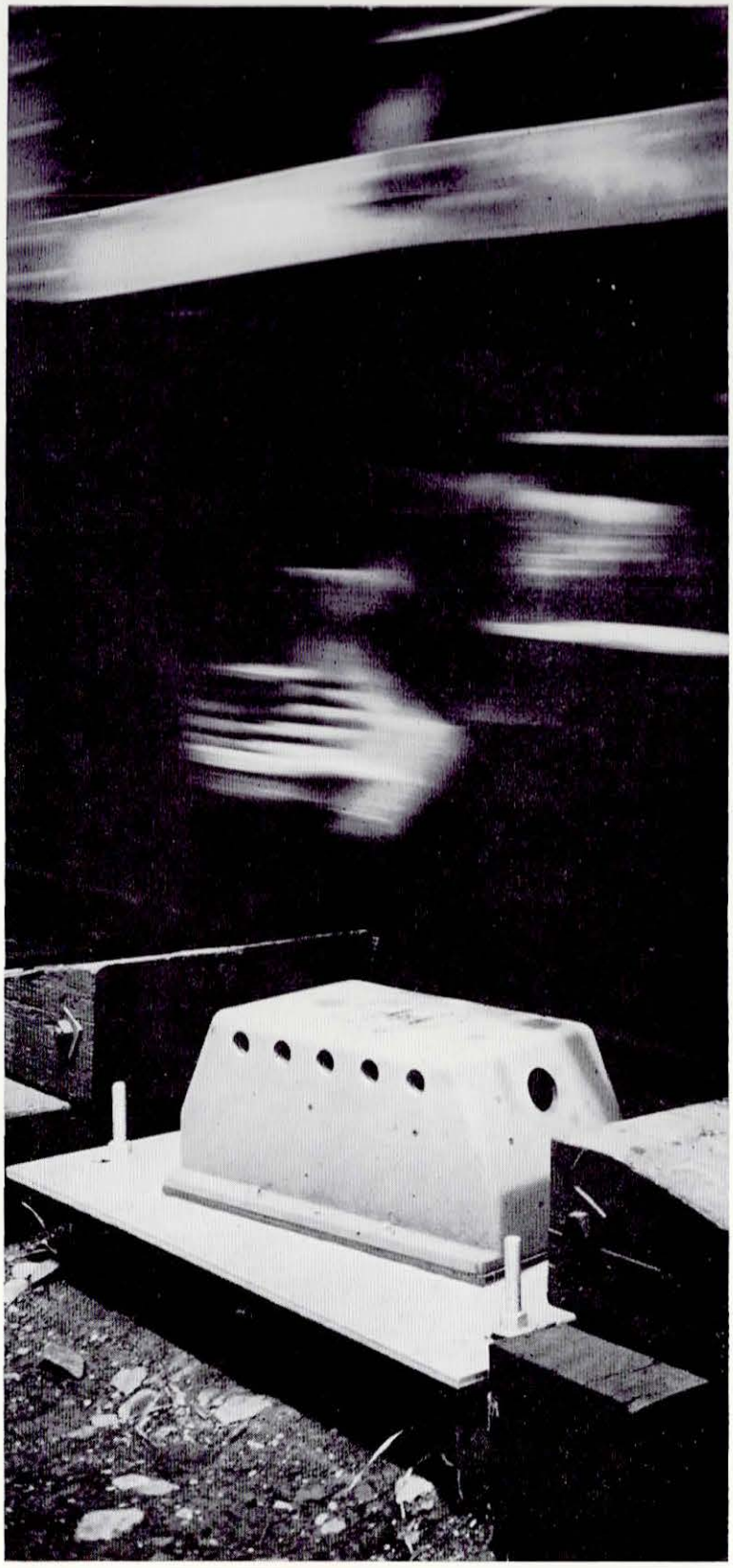


distribution of finished products.

A company that can integrate even the complicated variables of plant location into the profit-oriented meshing of procurement, production and distribution.

A company that can provide flexible combinations of different forms of transport . . . specialized cars for many unique requirements . . . the understanding to plan shipment as an extension of the production line . . . a company that can provide ample facilities for vast unit movements of commodities . . . or a series of relentlessly accurate timed deliveries of special elements.

Such a company is N&W. **Norfolk & Western Railway**



How to stop hot box derailments, damage, and delays

Back in 1956, Servo engineers perfected the technique of remote hot box detection by means of infrared. They looked at every conceivable location on and around the journal box for the most reliable indication of journal bearing heat. The best accessible area, substantiated by scientific tests made by the railroads themselves, proved to be the *trailing (and leading) surface of the journal box.*

Trailing (or leading) surface of journal box.

Tests prove that temperature of trailing or leading surface of journal box is proportional to temperature at journal-bearing interface. Presenting a low-mass path of thermal flux from the bearing, this surface rapidly reflects changes in the temperature of the bearing itself.

Based on the patented* *slant-aspect viewing* method, the sensitive infrared Servosafe® Hot Box Detective* diagonally "sweep scans" the entire trailing (or leading) surface of the passing journal box. Specifically designed to detect hot boxes, the Detective "feels" for hot boxes — and developing hot boxes — right at the source. The Servosafe system *consistently* catches dangerously overheated roller bearings as well as friction bearings . . . always sees the right target area . . . regardless of varying diameter of train wheels.

*Protected under one or more of the following U.S. Patent Nos.: 2,880,309; 2,963,575; 3,028,484; 3,095,171; 3,108,772; 3,108,773. Canadian Patent Nos.: 643,038; 643,091; 690,506; 690,907. Other U.S. and foreign patents pending.

RAILROAD PRODUCTS DIVISION

SERVO CORPORATION OF AMERICA

111 New South Road • Hicksville, L. I., N. Y.

Circle 13 on reader service card

We've been working on the railroad.

Like being the first guys to buy the most powerful single-engine diesels ever built.

We ordered first in '64.
Now we've 60 of these super freight locomotives in service.
A total of 155,150 h.p.
A total investment of $14 million,
with further purchases anticipated for 1966.
Result: Faster schedules. Greater tractive power.
Longer trains with fewer locomotives required.
Who says railroads are slow to make the grade? Not us.
We've been working on our railroad.

ATLANTIC COAST LINE RAILROAD

"Thanks for Using Coast Line"

Circle 40 on reader service card

"Never marry a Humble Railroad Man."

He'll stand *anybody* up at a time like this. On Sunday morning at 10 o'clock, a railroad called for two tankcars of DIOL® RD 80 diesel lubricating oil — for same-day delivery.

The order should have been placed three weeks before. Now the purchasing agent was in trouble.

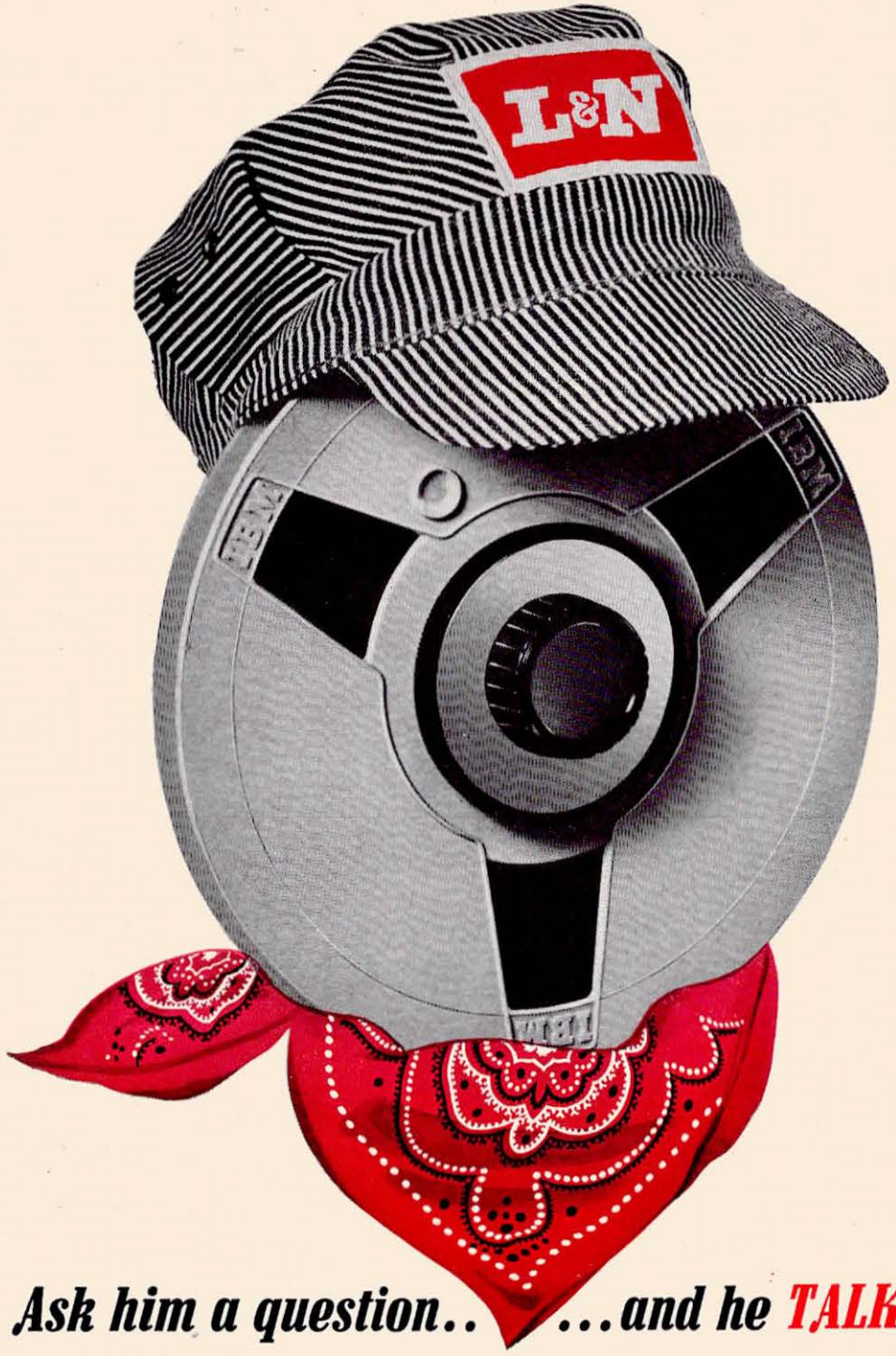
But our man understood, because he *started* in railroad shops, like most Humble railroad men. So he postponed all other plans and quietly set about mobilizing the resources of Humble to keep the locomotives running.

Humble railroad representatives may be a little late to church sometimes. But the Scriptures cover it . . . with a parable about pulling the ox out of the ditch.

Call us *any* time you need help.

HUMBLE OIL & REFINING COMPANY . . . THE PEOPLE WHO "PUT A TIGER IN YOUR TANK!" **ESSO**

Circle 7 on reader service card



Ask him a question.. ...and he TALKS BACK

MEET "LENEE"! ... our symbol for L&N's new Data-Spot Direct Inquiry Service. It's another important first for L&N, providing shippers with direct access to its computers! Now you get instant answers to car tracing inquiries. Your own *Telex* is your direct link with L&N's Data Processing Center in Louisville. You ask the question ... and you receive an immediate and accurate reply *on your own Telex machine ... in your own office!* Information that once required hours of waiting is now available in seconds. Find out about L&N's *exclusive* Data-Spot Direct Inquiry Service. Call your nearest L&N freight service man.

L&N READY FOR TOMORROW

LOUISVILLE AND NASHVILLE RAILROAD

W. G. Whitsett, Vice President, *Traffic*
L&N Railroad Company, P.O. Box 1198, Louisville, Ky., 40201
I would like detailed information about LENEE's service to shippers.

Name_____

Company_____

Address_____

City_____ State_____ Zip_____

Circle 51 on reader service card

Almost any lading and car need this extra margin of cushioning safety.

No other cushioner has it. Hydra-Cushion builds it in!

The Hydra-Cushion Underframe does not depend solely on hydraulics. It combines hydraulic with mechanical cushioning action.

This combination gives car and lading an extra margin of cushioning safety not obtained with other modern underframes. This safety margin derives from the unique design of the Hydra-Cushion Underframe: its mechanical components *alone* cushion a fully

HC® HYDRA-CUSHION®

loaded 100-ton car against impacts up to 6 MPH! And it does not depend solely on mechanical action —its hydraulic unit combined with its mechanical assembly absorb the full range of impacts normally encountered in modern freight car handling.

Shippers who use Hydra-Cushion equipped cars know their lading gets an extra margin of cushioning safety. Railroads know their investment's protected to the fullest.

UNIQUE CONVERSION FEATURE

When you want to convert 100-ton cars with 70-ton trucks to 100-ton cars with 100-ton trucks, the only conversion necessary in your Hydra-Cushion Underframes is simple replacement of a metering pin costing less than 10 dollars! The Hydra-Cushion Underframe is the only cushioning device that offers this unique feature.

UNDERFRAMES

HYDRA-CUSHION INC.

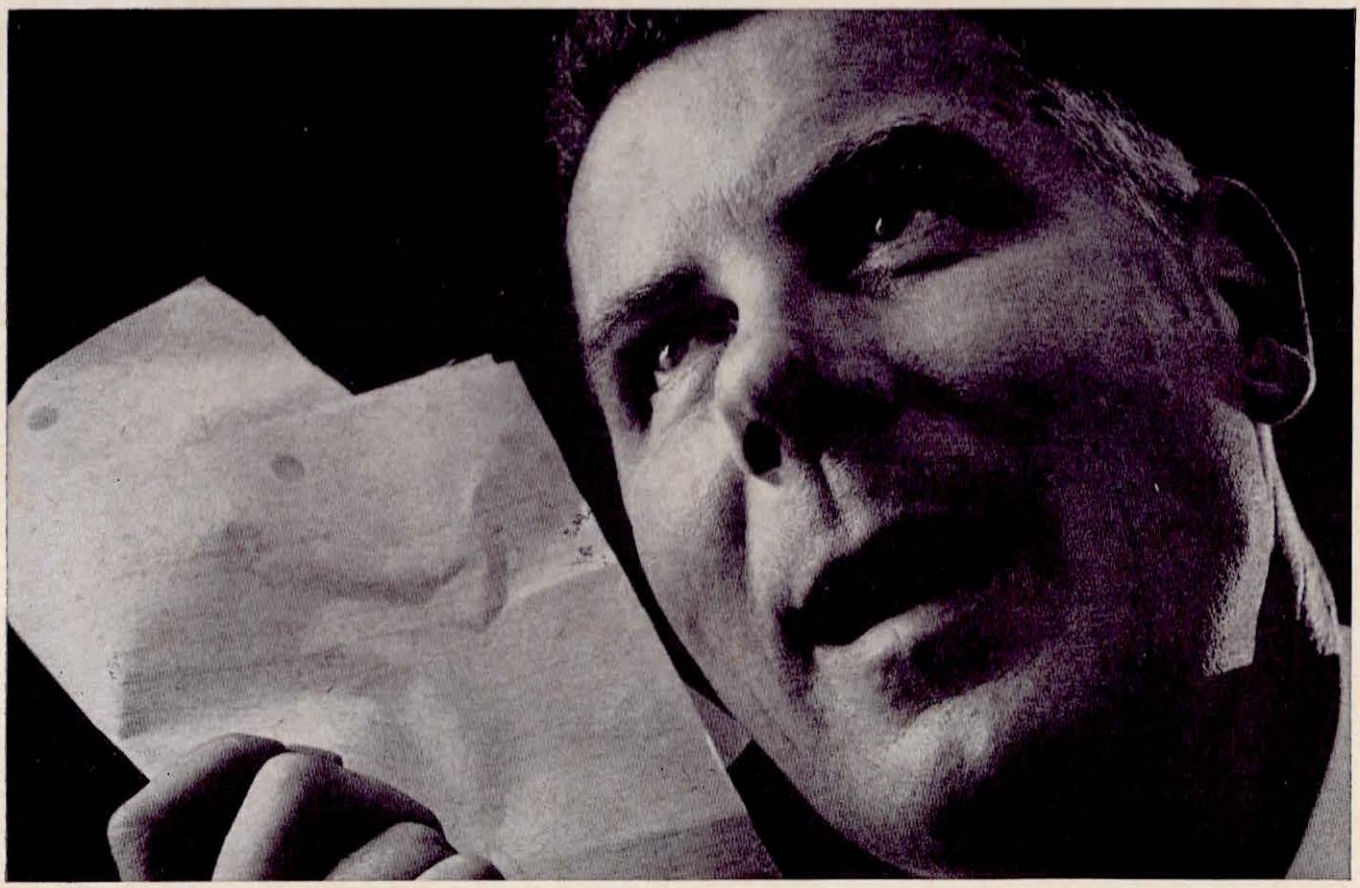
13101 Eckles Road
Plymouth, Mich. 48170

332 So. Michigan Ave.
Chicago, Illinois 60604

Canadian Representative: International Equipment Co. Ltd., Montreal

Circle 11 on reader service card

"Sure, Seaboard has bulk rates for your commodity."

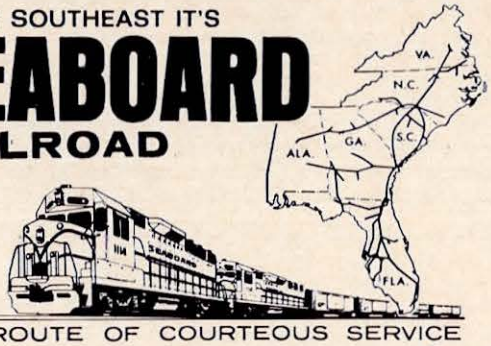


Your local Seaboard representative knows the score on bulk incentive rates and wants to show you how they can cut your shipping costs. He's on your side, too, in getting the exact type of cars you require, and can fill you in on every detail of our fast Piggyback and other services.

When you ship to and from the Southeast, "Seaboard it" through the man who protects your interest every mile of the way. Call him and let him take it from there.

IN THE SOUTHEAST IT'S

SEABOARD
RAILROAD



THE ROUTE OF COURTEOUS SERVICE

Circle 12 on reader service card

SCULLIN STEEL CO.

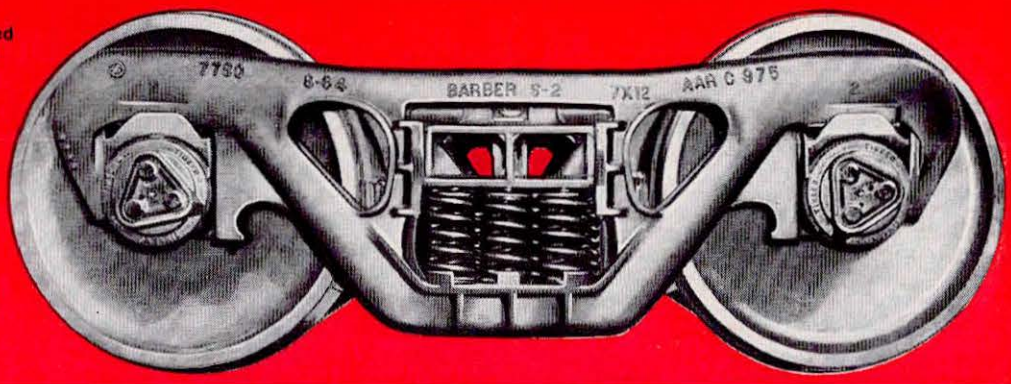
Drawing courtesy V.V. Masterson, author, "The Katy Railroad and The Last Frontier."

A RAILROAD HERITAGE since the 1860's

John Scullin, founder of Scullin Steel Co., was first known to the railroad industry as "the great American tracklayer" as he pioneered railroading through Indian territory in the early 1860's. The transition from laying track to the manufacture of freight car components to use the tracks was a logical step.

For more than 65 years, Scullin has played an important part in the advancement of freight car transportation. Specify Scullin for longer, trouble-free service. **Pound for pound, Scullin steel castings have no peer in strength.**

Above:
Katy inspection train stopped by Kaw Indians just north of Council Grove, Kansas, May, 1871. John Scullin's track crew had just completed laying this new section of track.



125-ton Barber 4-wheel truck, designed by Scullin to meet the ever-increasing demand for heavier loads, higher speeds and greater car utilization.

SCULLIN STEEL CO.

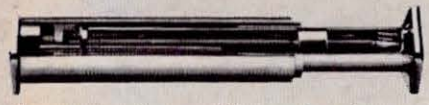
A Division of Universal Marion Corporation

Main Office & Works: 6700 Manchester Avenue St. Louis, Mo., 63139

SALES OFFICES: St. Louis, Missouri 63139 — 6700 Manchester Ave.
Chicago, Illinois 60604 — 332 S. Michigan Ave.
Philadelphia, Pa., 19103 — 1281 Suburban Station Bldg.

REPRESENTATIVES: Baltimore, Maryland 21202 — N. S. Kenney Co. — 1815 Munsey Bldg.
Richmond, Virginia 23230 — Samuel P. Goodloe — 3600 W. Broad St.
San Francisco, Calif. 94124 — J. C. Fennelly Co. — 1485 Bayshore Blvd.

Circle 14 on reader service card



From complex machinery to glassware to radios, you can count on better protection for your ladings with ACF Freight-Saver™ hydraulic-pneumatic cushioning units.

Freight-Saver units have no springs, few moving parts. Air pressure is used to soak up shocks and recenter impact after impact. Result? An attested record of rugged, trouble-free performance with very little maintenance. And if friction between the fixed and sliding sill develops, it's simple to adjust the air pressure.

ACF Freight-Saver units provide a payload bonus, too. Without the price penalty you pay for lighter-weight cars. New Freight-Savers with 20" travel save up to 2000 lbs. as installed, compared with competitive systems.

So if it's fragile, or even if it's not, handle it with Freight-Saver to cut down damage claims. (Thirty-one railroads do, on thousands of freight cars.)

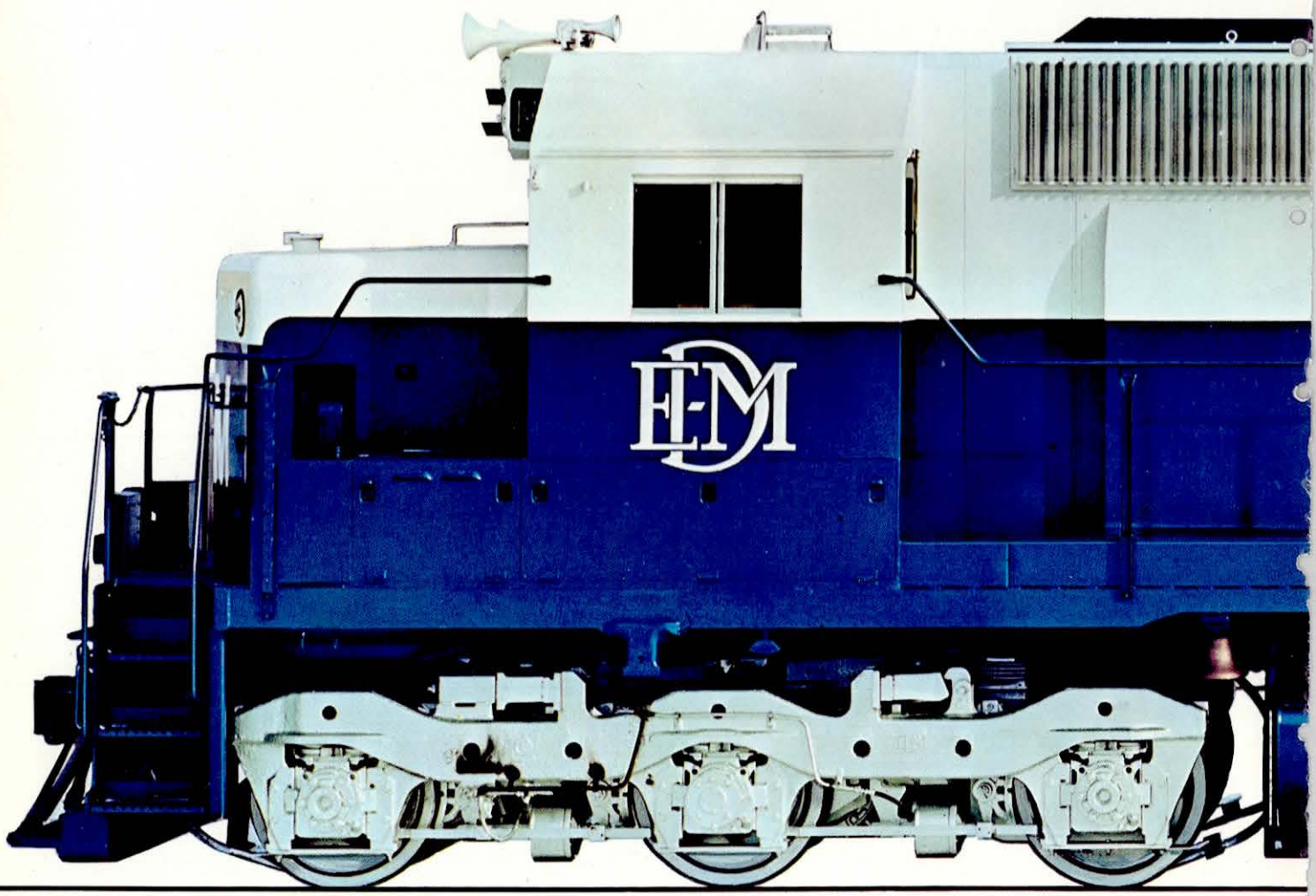
For details contact American Car & Foundry Division, ACF Industries, Incorporated, St. Charles, Missouri 63301, or our sales offices in Chicago, Philadelphia, St. Louis, San Francisco, Washington, D.C.

acf

ACF INDUSTRIES

POW

VER! 3600



HP 20 CYLINDER ENGINE

6 AXLES/ MOTORS

SD-45

opens up a whole new range of locomotive capability.

"Give us a locomotive that can run like a race horse and drag like a mule."

Big order? Not for the new SD-45.

This most powerful single-engine Diesel locomotive will demonstrate to America's railroads in the months ahead that a single model can run the gamut of main line service demands with economy, productivity and speed never before matched.

Three new 3600 hp SD-45 prototype models with Electro-Motive Division's new test car are now in demonstration service, proving what months of computer studies said they could do.

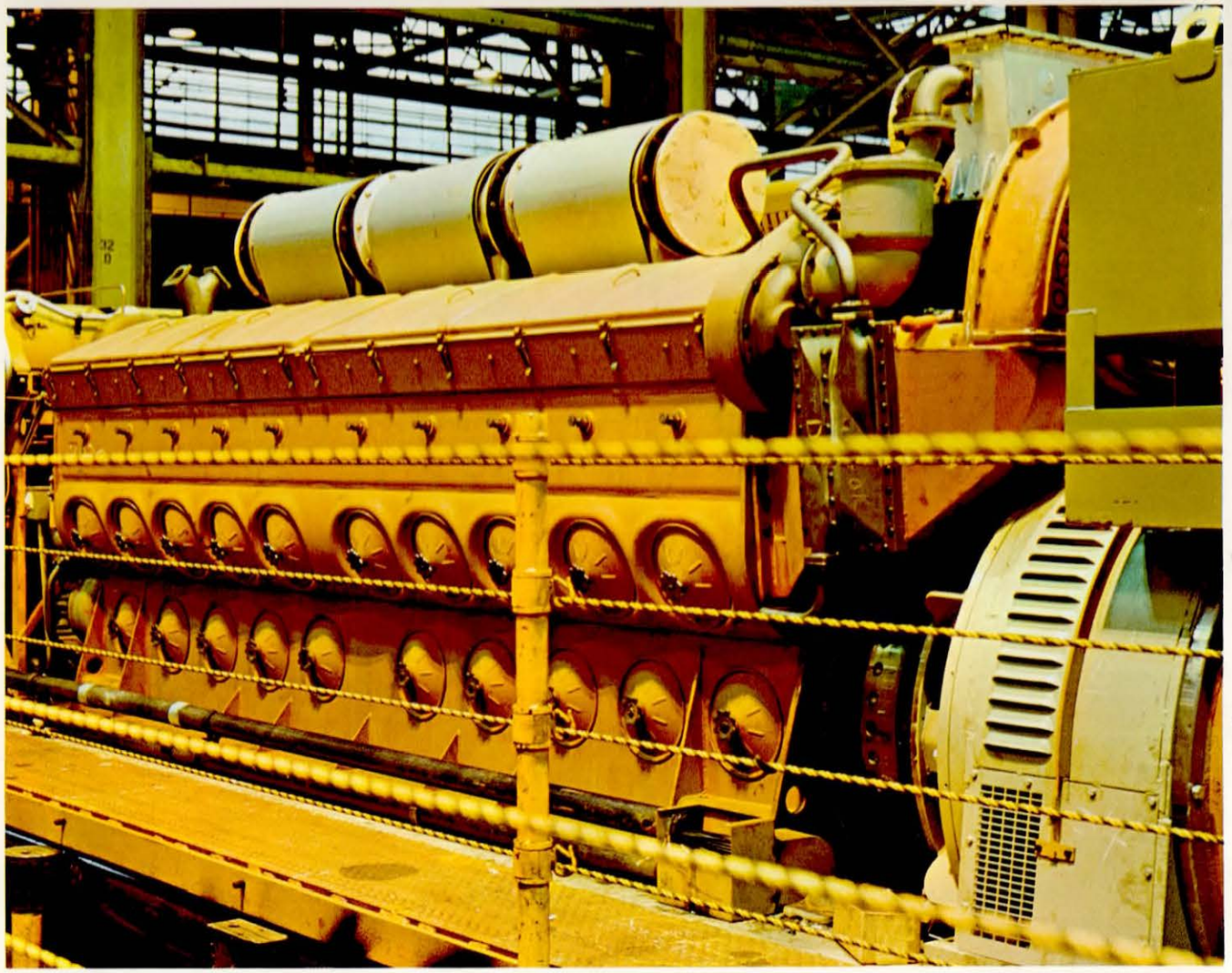
In a sense, the SD-45 was designed by a computer. We took the roadbed characteristics of three railroads, representing the extremes from flat terrain to mountainous. We added the demands of three different kinds of freight service—slow heavy tonnage, normal manifest, and high speed expedited freight. The computer compared the capabilities of various locomotive models on the basis of cost per ton to move freight between two points in three types of service.

The combination of power, tractive effort and weight embodied in the new SD-45 proved to be the most economical of all models when assigned equally to all types of service.

The performance of the SD-45 in service will challenge the philosophy that the four-axle locomotive is the only answer to high speed minimum grade and that the six-axle unit is only for heavy drag and mountainous service. This is especially true when viewed in terms of a single motive power tool for main line service.

The SD-45 is powered by the turbocharged, 20-cylinder version of General Motors new 645 engine series. Electro-Motive engineers spent three years developing this new prime mover and the series has already undergone more than a million miles of testing.

Shaft horsepower on the SD-45 is converted to electrical energy by the new AR-10 alternator. This reliable, low maintenance alternator takes the place of a conventional dc generator.

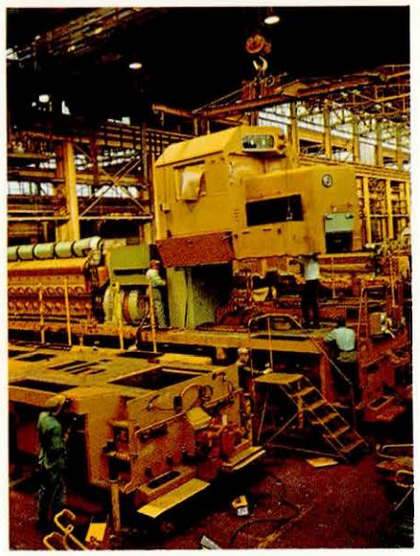


A 20 cylinder 645 engine and AR-10 ac/dc generator await the first SD-45 car body.

Cooler running, greater capacity traction motors (D-77) apply the big 20-cylinder engine's output to six axles.

Solid state components increase reliability and reduce maintenance in new electrical control systems on the SD-45.

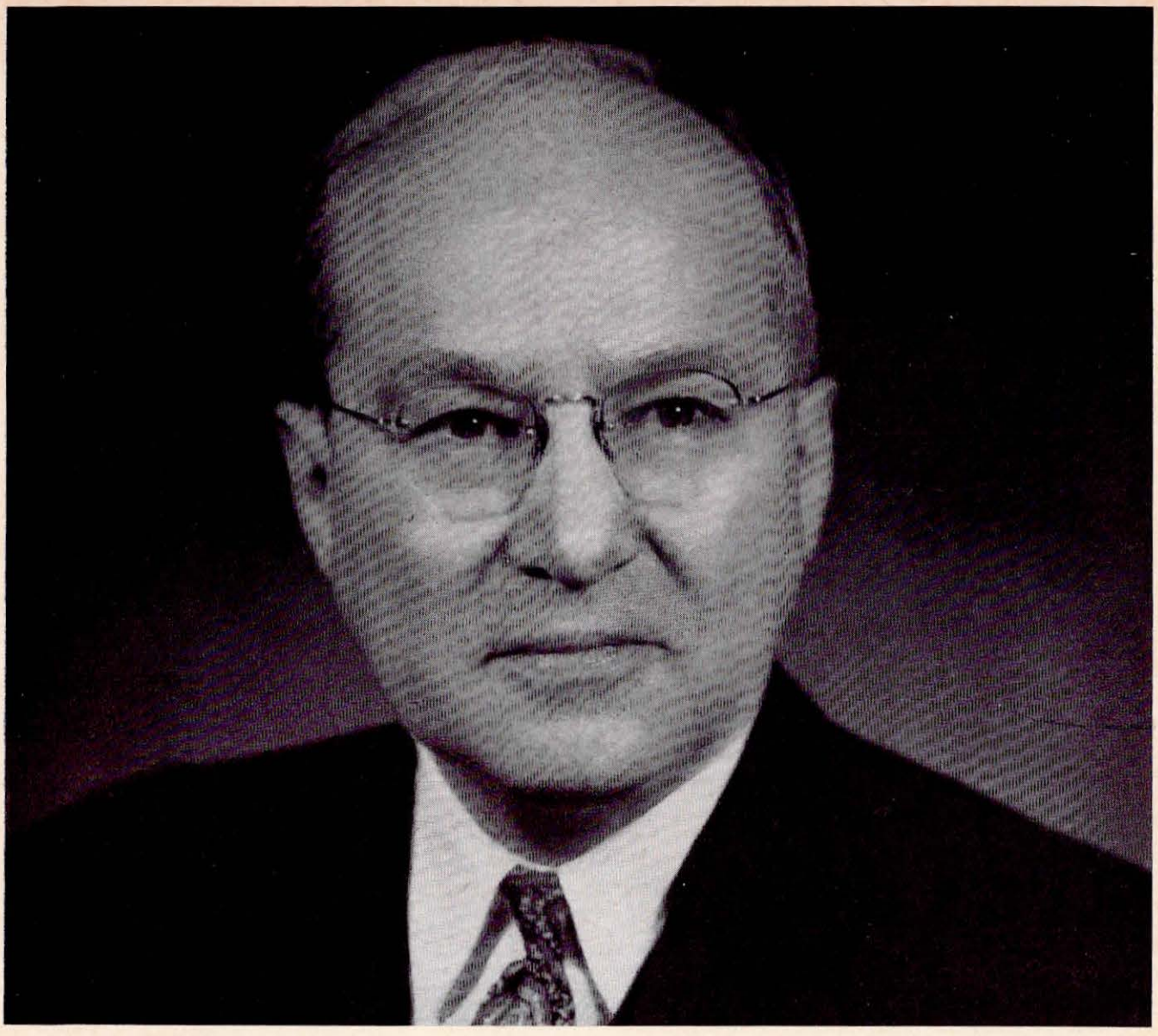
Ask your Electro-Motive representative to give you complete details on the performance and economy of the SD-45 locomotive in your kind of operating conditions. Or better still, ask him to bring along the demonstrators.



Cab unit is lowered onto frame.

The second SD-45 power plant prepares to receive car body.

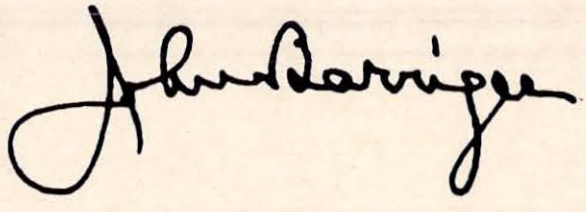
ELECTRO-MOTIVE DIVISION
GENERAL MOTORS · LA GRANGE, ILLINOIS

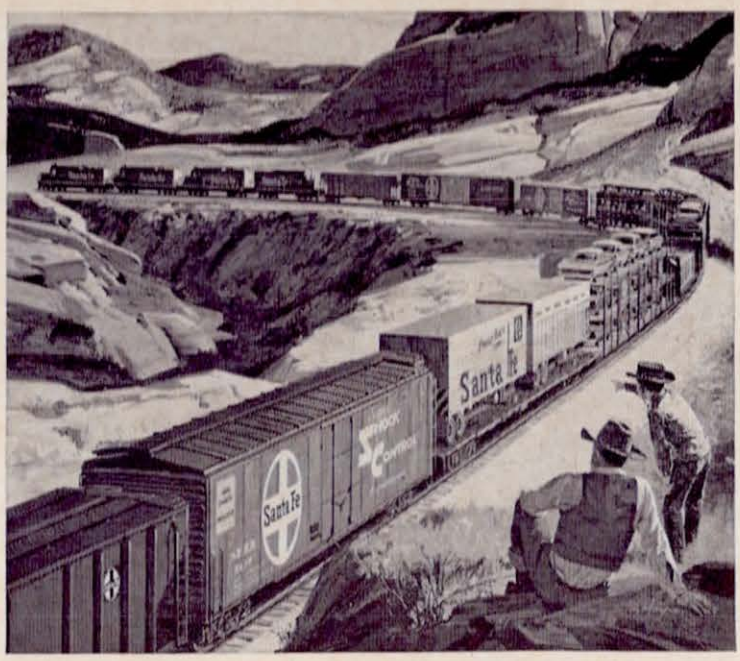


JOHN W. BARRIGER, PRESIDENT
Missouri-Kansas-Texas Railroad

"The year 1965 marks the 50th continuous year in which I have been a personal subscriber to Railway Age. In 1960 I wrote you that 'over the years, Railway Age has contributed more to my railway education than any other source of instruction or information, except actual railway work—and it continues to do so.' I wish to reaffirm that statement and also to mention again that beginning in 1923, I have had each successive year of Railway Age bound for addition to my library, and I only wish I had started doing this in 1915.

"In the M-K-T as in P&LE and Monon, Railway Age articles are frequent subjects of discussion at staff meetings as we endeavor to keep abreast of railway progress throughout the country."





Still more new cars and diesels, too, for Santa Fe.

Our $188-million improvement program for 1966 includes over 7800 freight cars and 60 diesels. That brings our investment to more than $403-million for over 21,000 new freight cars and new diesels in just four years. All to better serve the busy Santa Fe country and you, Mr. Shipper!

Here are the up-to-date facts about Santa Fe. With our program for 1966 more than 24% of our huge fleet of freight cars will be less than 4 years old. And over 50% of our diesel freight power has been replaced with units of the high-horsepower type.

But even these figures do not tell our full progress story.

Santa Fe's new diesels, like practically all others in our fleet, are equipped with radio communications and other modern features which combined with their high-horsepower enables them to pull trains on fast, dependable schedules.

Our new freight cars meet demonstrated preferences of shippers. Some are longer, others are two and one half times larger in cubic capacity; many haul twice the tonnage of cars they replace.

Our special task force of 100-ton covered hopper cars for grain, potash, and other bulk commodities is being further enlarged. Soon 8,100 of these jumbo hoppers will be in service and this fleet will have the carrying capacity equivalent to more than 16,000 conventional box cars.

Every new car offers a special benefit to Santa Fe customers. Multi-level automobile cars. Huge auto-parts box cars. Mechanical temperature-control cars. Insulated cars. Faster-loading hoppers. Piggy-back trailers and flat cars. For every type of carload, Santa Fe has a modern car. And as we add new specialty cars, we can assign more of our regular box cars, along with our new 100-ton hoppers, to handle the grain shipments to alleviate shortages.

New microwave communications, rapid car-reporting, modern terminals keep our freight fleet rolling throughout the country.

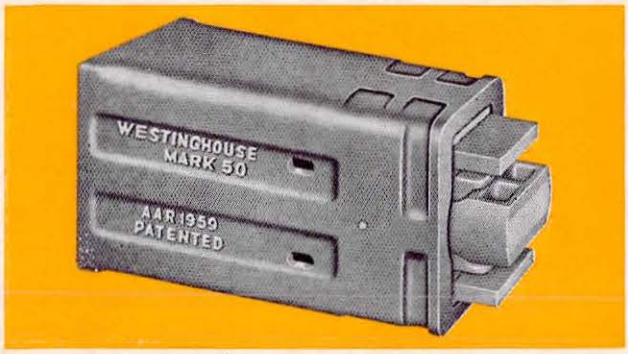
Across the U.S., Santa Fe men in 64 Traffic Centers linked in a network coordinated with our railroad are fully prepared to serve shippers everywhere. How can Santa Fe help you?

The railroad that is always on the move toward a better way.

Circle 18 on reader service card

TIME-PROVEN CAR PROTECTION...

MARK 50



Over 114,000 Westinghouse Mark 50 Friction Draft Gears are in use on over 100 railroads and private car lines in the United States and Canada! Since the first order was received on January 20, 1961, the Mark 50 has proven its ability to minimize bad-ordered cars and maintenance costs.

The Mark 50 is Unconditionally Approved by the A.A.R., Certificate No. 41, Spec. M-901E!

Application can be made to 24⅝-inch pockets with standard 17¾-inch striker.

Specify the time-proven Mark 50 for your cars and save!

CARDWELL WESTINGHOUSE COMPANY

332 SOUTH MICHIGAN AVENUE, CHICAGO, ILLINOIS 60604, U.S.A. • TELEPHONE: 312-427-5051

INTERNATIONAL DIVISION SAME ADDRESS

Circle 17 on reader service card

This STEELMARK of the American Steel Industry on a product assures you it is modern, versatile, economical Steel. Put it on products you sell; look for it on products you buy.

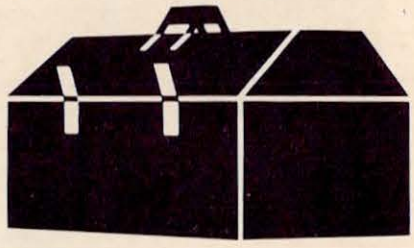
"I'm fed up with being V-P of a railroad that doesn't have Republic Coil and Gondola Covers!"

Shippers of steel coils as large as 84" diameter can be sure of good-order delivery when you protect ladings with weatherproof Republic Coil and Gondola Covers.

Weatherproof air vents at each end of Republic Coil and Gondola Covers assure ample air circulation, minimize condensation, eliminate waterproof—paper wraps. Cradles and hold-downs are quickly checked through inspection doors, with covers left in place.

Republic Coil and Gondola Covers are engineered and fabricated to withstand hundreds of the roughest lift-offs and lift ons. Unique design corner reinforcements and strong corrugated steel sheets are combined into minimum maintenance, maximum life covers that are on the road more, in the shop less.

Write for literature describing Republic Coil Covers and 3-section Gondola Covers for all types of lading. Or have us send a Republic salesman at your convenience.



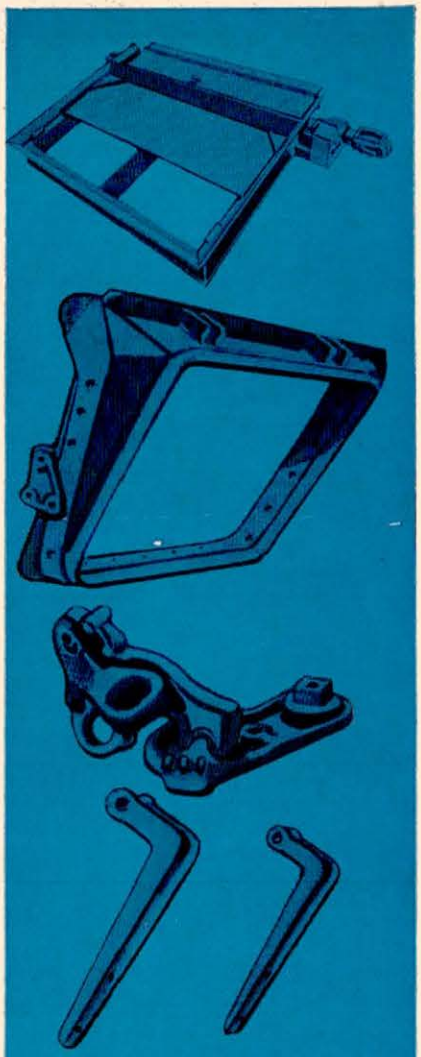
REPUBLIC STEEL

MANUFACTURING DIVISION

REPUBLIC STEEL CORPORATION
Youngstown, Ohio 44505

CALL THE MAN FROM MANUFACTURING!

Circle 20 on reader service card



IF YOU'RE BUYING
RAILWAY SPECIALTIES

BUY WINE

WINE
RAILWAY
APPLIANCES

THE WINE RAILWAY APPLIANCE CO.

DIVISION OF UNITCAST CORPORATION
TOLEDO, OHIO 43609

Canadian Manufacturing Division:
Canadian Unitcast, Ltd., Sherbrooke

Sales and Service:
The Holden Co., Ltd.
614 St. James St., W., Montreal

PRI MEMBER

Circle 23 on reader service card

"My Dad's an Admiral for the railroad!"

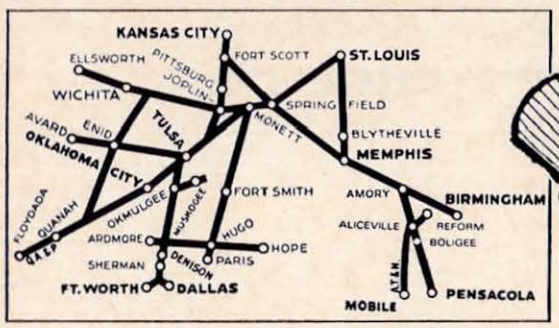
"Would you believe ...a captain?"

You can hardly blame a boy for getting mixed up.

Dad talks so much about ships, oceans and foreign ports that the kid is seeing stripes on Dad's blue serge suit coat.

But Dad *does* work for a railroad—Frisco. He's in its export-import department, helping shippers to and from overseas get smooth service between freight car and ship through Mobile and other Gulf ports.

He is one of the reasons why, no matter where you ship, if you judge a railroad by service, you should... ***Try FRISCO Service for Size!***



Circle 22 on reader service card

Continental Grain Company uses Double-Cover Polyclutch Lining in 310 new 4,427 cubic-foot-capacity covered hopper cars constructed by Pullman-Standard Division of Pullman, Incorporated, and leased from Transportation Leasing Corporation. Transport Leasing cars specify Polyclutch Lining.

WHY SPRAY TWO COATS OF LINER INTO COVERED HOPPER CARS, WHEN A SINGLE COAT OF NEW DOUBLE-COVER POLYCLUTCH GIVES THE DRY FILM COVERAGE OF TWO COATS? POLYCLUTCH SPRAYS ON QUICK AND EASY... CUTS LABOR COSTS AND OVERSPRAY LOSSES... PUTS CARS IN SERVICE FASTER... AND GIVES YOU CLEANER, QUICKER OPERATION WITH NO CONTAMINATION LOSSES!

• **Tough, longer-lasting Polyclutch** has a hard, smooth, non-porous surface that resists abrasion, is tasteless, odorless and doesn't affect foodstuffs. It is approved by the U.S. Food & Drug Administration and specified by most major roads. For more facts, write Pittsburgh Plate Glass Co., Railway Finishes Division, 1 Gateway Center, Pittsburgh, Pennsylvania 15222.

PITTSBURGH® PAINTS

® PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS • FIBER GLASS

PITTSBURGH PLATE GLASS COMPANY

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED

Circle 19 on reader service card

NOW...

ALL "PL" TYPE CUT-OUT COCKS HAVE O-RING SEALS!

The New York Air Brake Company was first to offer Teflon* coating of Cut-Out Cock Keys having the advantages of permanent lubrication, ease of operation and freedom from corrosion.

Now—with the introduction of O-Ring Seals to the full line of "PL" type Cut-Out Cocks, the troublesome leakage of air to atmosphere at the upper end of the Key is effectively eliminated. Additionally, plating of all external and internal surfaces of Cut-Out Cock bodies after machining, provides hard and durable anti-corrosion protection.

Write for full information on these permanently reliable, low-cost Cut-Out Cocks.

**Registered trademark of DUPONT*

Another Product Innovation by

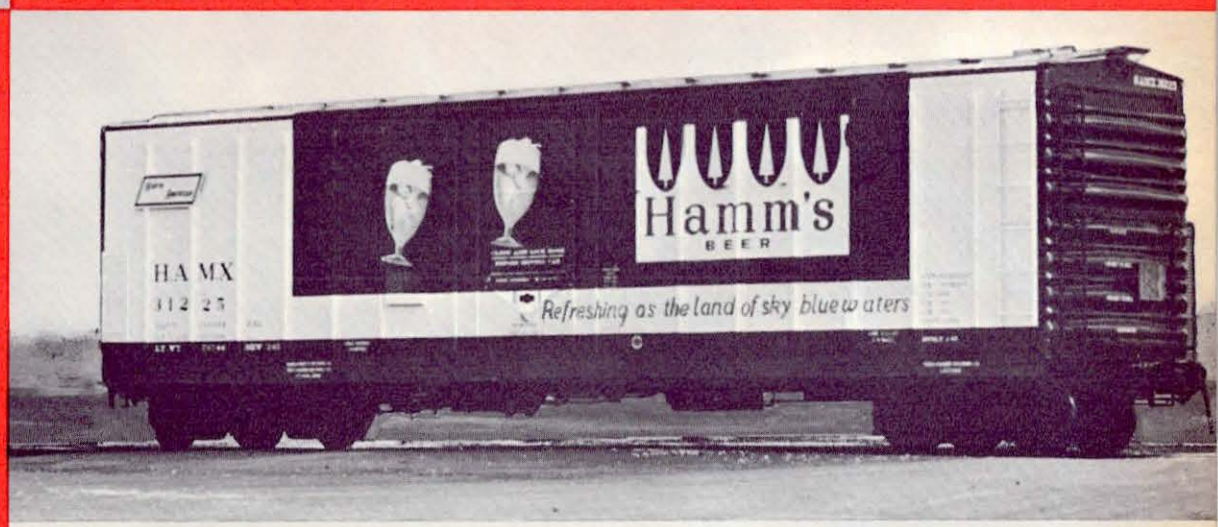
CLEARED TO PROCEED PRI MEMBER

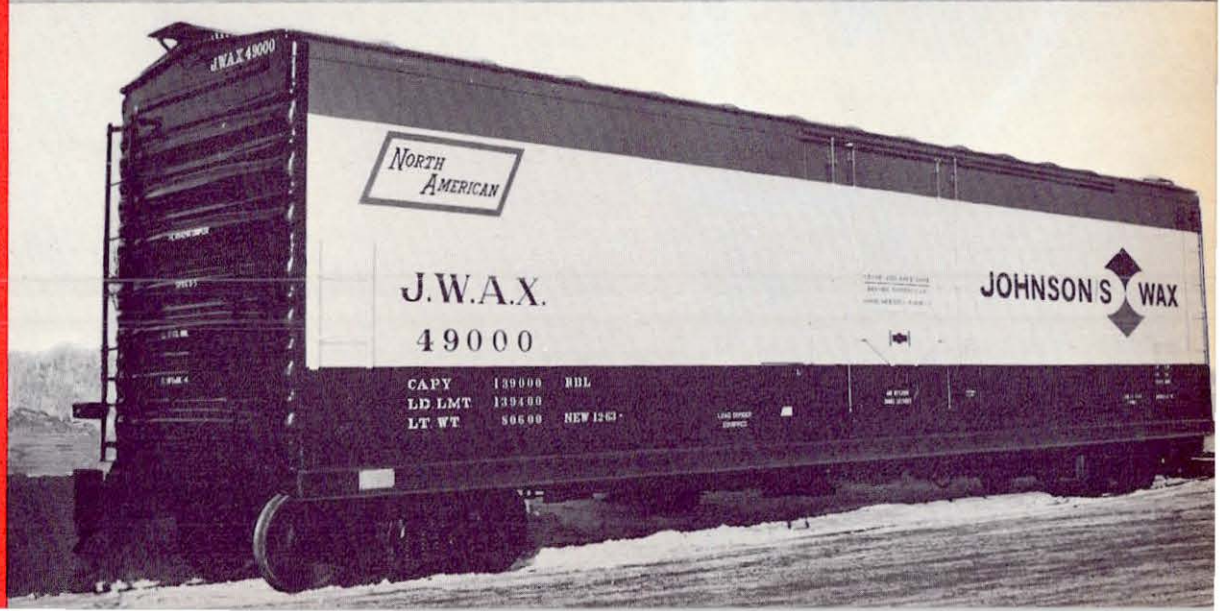
THE NEW YORK AIR BRAKE COMPANY

230 PARK AVENUE • NEW YORK, N. Y. 10017

Circle 24 on reader service card

Over 3,000 void-free cars equipped with LANDRETH Pre-molded Urethane foam Panels*





*Patents Pending

Reduce labor costs with easy-to-install LANDRETH Pre-molded Urethane foam Panels

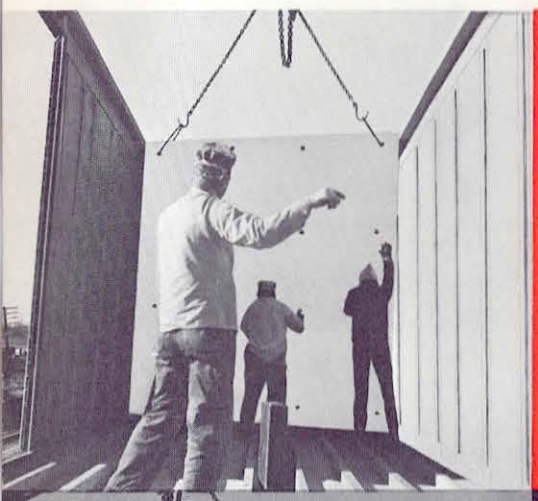
Landreth continues to pioneer new equipment and systems for the transportation industry. Landreth's experienced engineers have dedicated over 60 years of service to the railroads as well as to the research and development of quality, labor-saving, and profit-making systems and products.

Our modern plants operating under controlled laboratory conditions, supervised by trained engineering specialists to insure the best possible insulation to suit your custom needs.

Ten foam machines, equipped to provide uniform volume and temperature control of the feed streams insure fast and efficient production.

Now you can free capital that would normally be invested in special facilities, research laboratories, engineering, and labor.

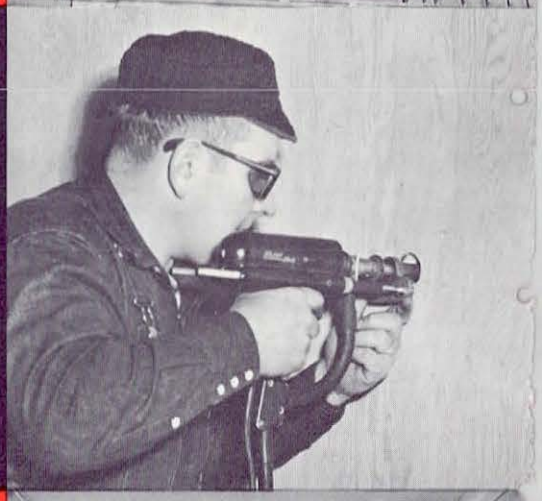
How to reduce costs and increase efficiency



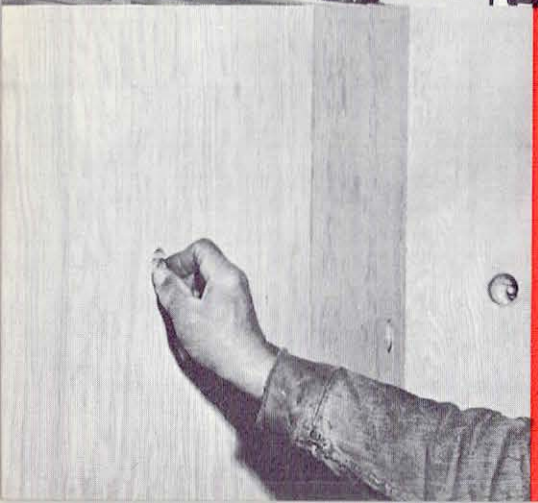
1 Workmen lowering end panel into place. Panels are moved into production line on freight cars and lifted into cars on cranes.

2 Workmen lowering side panel into place.

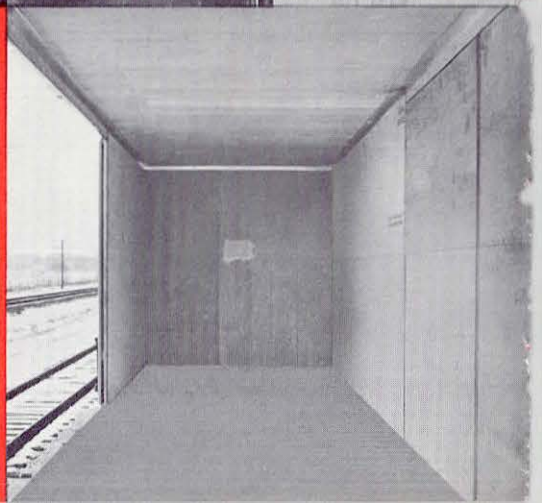
3 Workmen fitting side panels into place. Only 14 panels per car—panels are pre-trimmed, complete and ready to bolt into place for the sides, ends, ceiling, floor, and door.



4 Workmen fastening "Nelson" stud to outside post. Insulation thickness is reduced by ½ over conventional insulation materials.



5 Workmen inserting attaching device which when tightened, secures panel to side of car. This effective fastening system provides fastening without the normally associated heat loss.



6 Finished car. All joints foamed to insure a complete air-tight car.

Landreth panels increase insulation efficiency and cut costs

The new Landreth Pre-Molded Urethane Foam Panel enables railroads and car builders to build a better car faster and with less man hours in their shops.

The new Landreth system enables the builder to provide a Urethane Foam car without the necessity of installing special machinery and costly facilities.

Landreth Pre-molded URETHANE foam Panels engineered and proven best by test

The Inside Story of Budd Report #2238

The Landreth Insulated Car equipped with Landreth's Pre-Molded Urethane Foam Panels has just undergone exhaustive tests. After six months of road tests, the car was tested in The Budd Company testing laboratories in Philadelphia.

Here are the startling results from the Budd Laboratory's report.

The car constructed with the Landreth Pre-Molded Urethane Foam Panels was to be tested against two other cars constructed with Urethane Foam block. All the cars had been previously road tested for six months or longer.

The Landreth equipped car had absolutely no air leakage, no hot spots, and *no voids in the foam.* In addition, at 100 degrees differential, the car built with the Urethane Foam block had a BTU average of 143 BTU's per hour. The car equipped with the Landreth Pre-Molded Urethane Foam Panels also at 100 degrees differential and tested under the exact conditions, showed an average of just 93 BTU's per hour.

The Landreth Insulated Car was at least 50% more efficient than the car constructed with foam block. Conclusive proof that the Landreth Pre-Molded Urethane Foam Panel—is "Best by Test"!

Reduce labor costs with easy-to-install Landreth pre-molded Urethane foam panels*

Landreth Pre-Molded Urethane Foam Panels provide a lower K factor, as low as 0.11 (BTU's/sq. ft./hr./°F/in.) at 70 degrees as compared to 0.23 for conventional insulation. Over 90% of Urethane cells are closed. Thus, locking out moisture.

Check these features that make LANDRETH pre-molded Urethane foam panels*— best by test!

- ★ No Air Infiltration
- ★ No Localized Hot Spots
- ★ Non-Burning Foam
- ★ Easy Repairs
- ★ Seamless Vapor Barrier
- ★ Greater Thermal Efficiency
- ★ Thinner Walls
- ★ Completely Pre-Fabricated
- ★ Guarantee No Voids
- ★ All Joints Foamed
- ★ No Moisture Absorbtion
- ★ Odor Free and Non-Toxic
- ★ Fungus and Rot Proof
- ★ Added Structural Rigidity
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- ★ Does Not Split or Settle From Road Vibration or Temperature Change

Highest quality controlled Urethane material on the market today

*Patents Pending

Landreth INDUSTRIES INC

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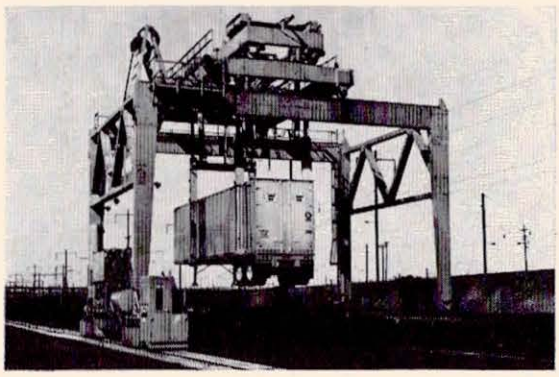
Southern "Irongenuity" at Work . . .



This 50-ton gantry crane, designed and built by Southern Iron for use by a major railroad is operating now in Kearny, N. J., loading and unloading piggybacks. Features of this all-hydraulic crane include telescopic grappling arms, and ability to rotate the load ±15°.

Southern Iron's recent acquisition of an additional 27-acre manufacturing facility in Atlanta is part of the company's expansion program to stay ahead of the trend toward customized rolling stock. Combine ingenious engineering talent and production versatility with top level interest and supervision . . . and you have your finest source — Southern Iron. Contact us.

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Circle 26 on reader service card

◀ **Circle 25 on reader service card**

Containerized freight— via FRUEHAUF equipment— pays off for Southern Railway!

SOUTHERN RAILWAY SERVES THE SOUTH
LOOK AHEAD LOOK SOUTH

Southern Railway, one of the leaders in the movement of containerized freight, uses Fruehauf Containers to give its growing list of shippers economical, fast, flexible, and dependable service.

Southern is one of a growing number of railways using Fruehauf Containers to: (1) reduce handling costs, (2) minimize packaging problems, (3) cut down or cut out pilferage.

With 20′ and 40′ Fruehauf Containers in both Van and Open Top design—supplemented by Fruehauf Trailers in piggyback operations—Southern Railway offers its customers freight-handling service tailored to individual needs . . . combining the best features of long-haul rail movements with versatile truck transportation.

There's a cost-cutting Fruehauf container for every job. Sizes range from 4′ x 8′ for small shipments to giant 40′ over-the-road semi-trailer types. For complete information see your local Fruehauf representative or write: **Fruehauf Division, Fruehauf Corporation, 10942 Harper Avenue, Detroit, Michigan 48232.**

Leadership in ENGINEERED TRANSPORTATION since 1914

FRUEHAUF TRAILERS

Rugged **FRUEHAUF** Trailers serve Southern Railway in piggyback service.

OPEN TOP CONTAINERS AND TRAILERS

PLATFORM TRAILERS

DROP FRAME DRY FREIGHT VANS

Southern Railway also operates a variety of Fruehauf Trailers in piggyback service: Open Tops, Platforms and big Super-Cube Volume ☆ Vans. Some of their outstanding piggyback features: king pin welded directly to king pin mounting for extra strength . . . reinforced front Bulkhead* strongest in the industry . . . square leg supports–operate twice as fast as ordinary supports with half the effort.

*Fruehauf Patent Pending

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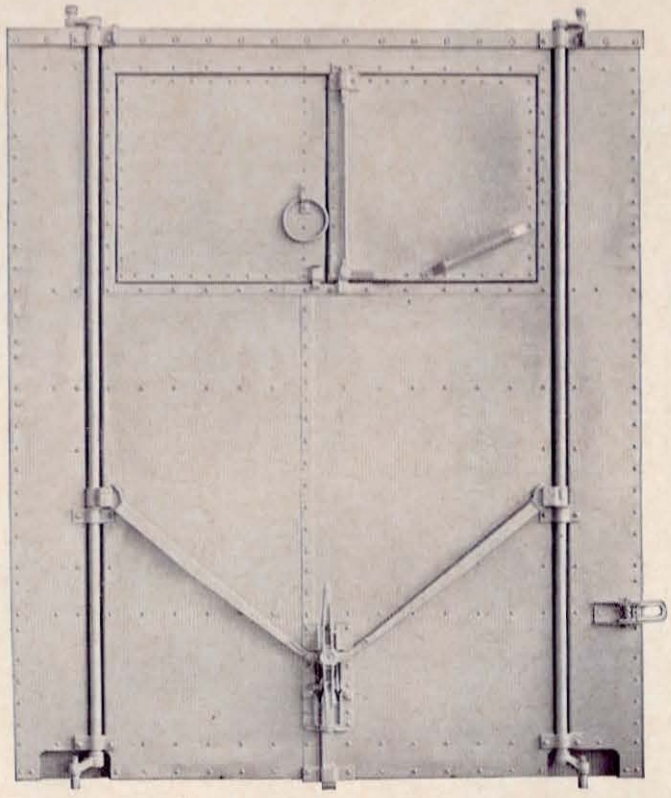
TOTAL



UTILIZATION

With Youngstown's Grain Access Flush Doors, your car is ready for any type box car service. You can save the $18,000,000 a year that is paid by North American railroads in grain and feed loss claims. Save additional millions in Grain Door and coopering costs. **When** you stop to think of it, can you really afford any other type of Car?

YOUNGSTOWN STEEL DOOR CO.

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Fed up with second-class service on shipments of less than a car load or truck load? Then try MoPac. We've got everything it takes to expedite LCL or LTL . . . including the equipment, the facilities and the schedules. For example, our "Piggyback Special" Train 69 is a real whiz-on-wheels, with second-morning delivery from St. Louis to Dallas, Fort Worth, Houston and other Texas points. We'll pick up and deliver, too, whether you have a siding or not.

So on any "less than" shipment, don't hesitate to give us a call for fear we'll think it's too small. We measure service in terms of a customer's need. And when you weigh it like that . . . LCL and LTL stack up as big as a carload!

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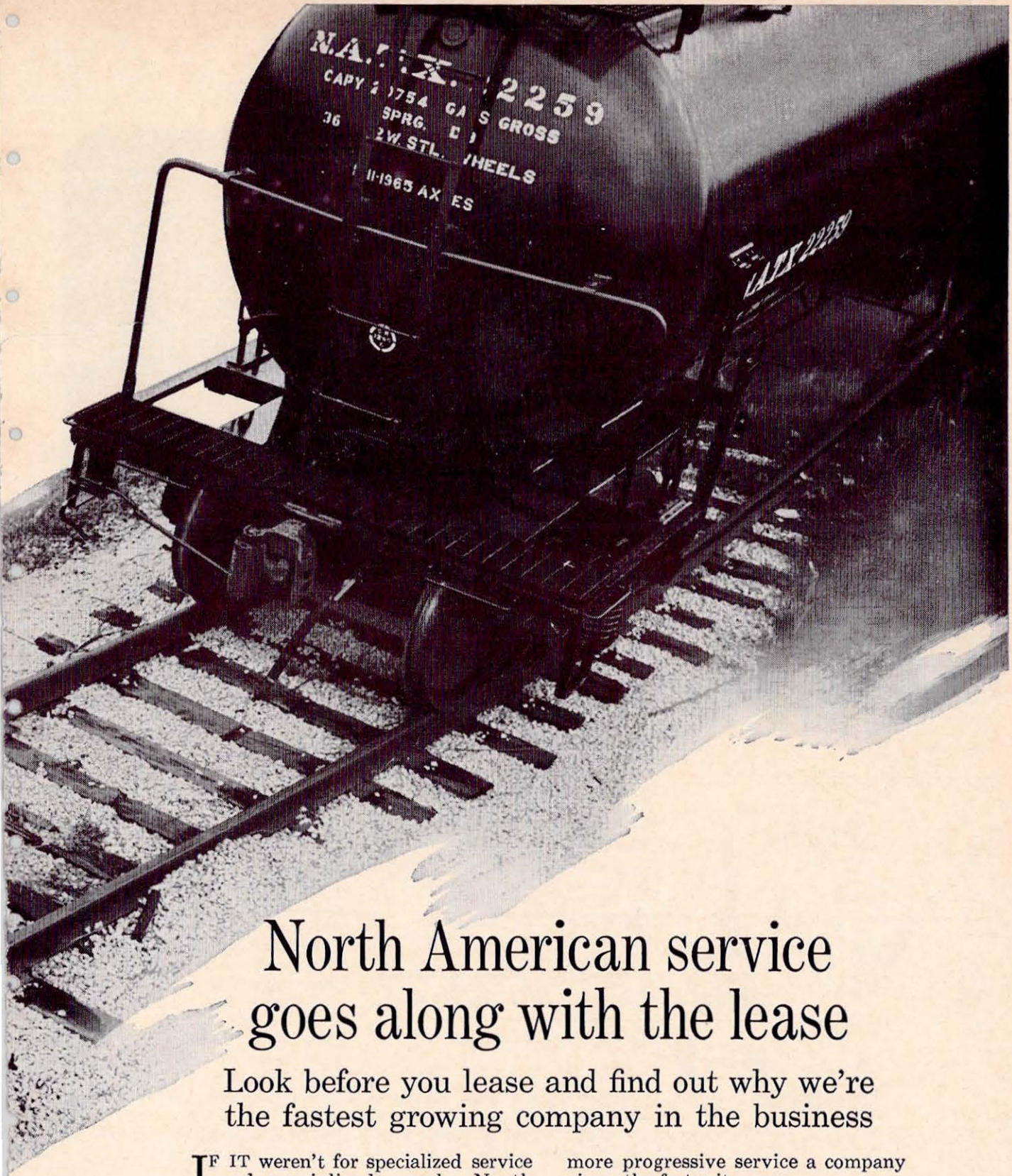
PART OF OUR TANK CAR TEAM

Front row (left to right) Russ Platt, Gene Lubieniecki, Ed Wilson.

Back row (left to right) Edna Sitts, George Chmelik, Dick Schlichter, Bill Hankins, John Kortenhoeven.



North American service goes along with the lease

Look before you lease and find out why we're the fastest growing company in the business

IF IT weren't for specialized service and specialized people, North American Car wouldn't be any different than any other leasing company.

After all, most of the major companies offer similar equipment and facilities. So it stands to reason, the more progressive service a company gives, the faster it grows.

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Look before you lease—see how nice it is to do business with a company where service is just the beginning.

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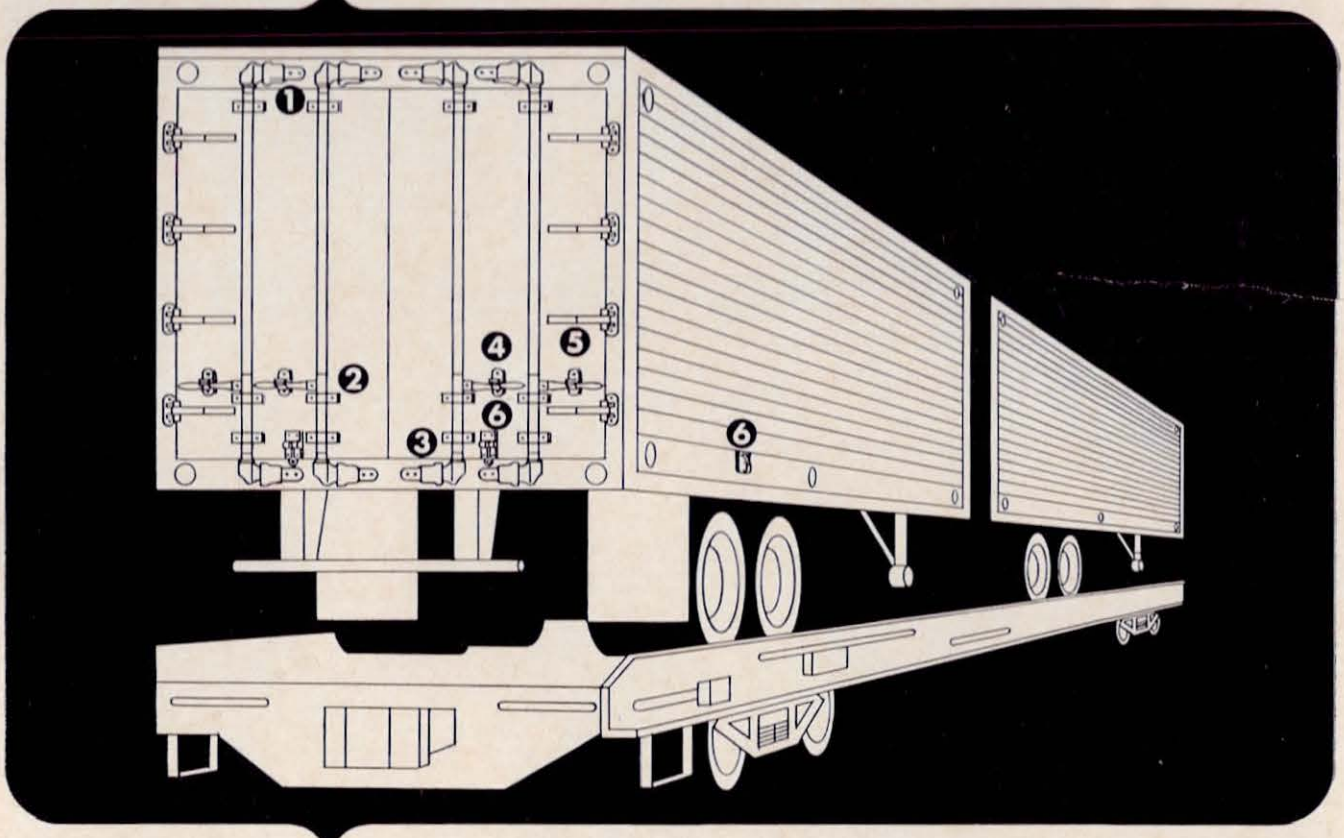
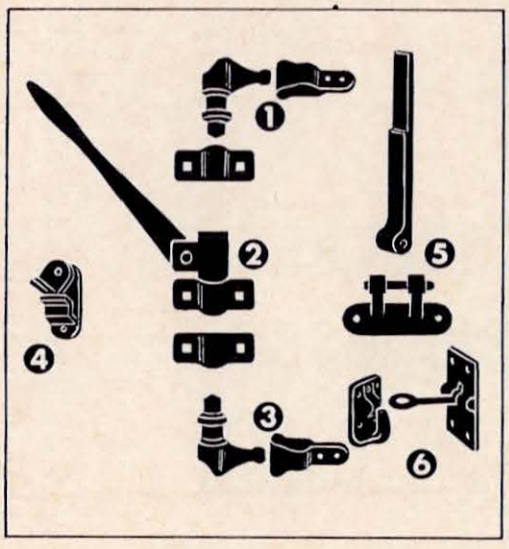


Specify Porter rugged FORGED truck body hardware



2-POINT TAPER CAM LOCK

1. Permanent, strong welded joints.
2. Automatically closes and locks doors, even doors out of alignment.
3. Cleveland drop-forged parts deliver truck-life wear.
4. Handle bracket allows easy one-hand latching.

HINGES AND DOOR HOLDERS

5. Straps may be welded, bolted or riveted to door.
6. Forged . . . for strength.

Forged hardware is built to take the pounding and slamming of daily use—or abuse. It's durable and built to last as long as the truck it's installed on.

You can get forged hardware from Porter for any door size or any door type, as original or replacement equipment. For piggyback security, specify Porter 2-point Taper Cam Locks. They're designed to withstand the severe and damaging effects of vibration. Used with Porter forged hinges and door holders, these trailer door hardware sets provide the ruggedness and security every piggyback shipper needs. And they are forged to be better, last longer.

Write for your complete catalog of standard forged hardware: Cleveland Forge Works, Fabricated Metals Division, H. K. Porter Company, Inc., 3270 E. 79 Street, Cleveland, Ohio.

PORTER *FABRICATED METALS DIVISION*
H. K. PORTER COMPANY, INC.

Circle 31 on reader service card

Gulf Dieselmotive 470 reduces right-of-way fires.

It's completely ashless!

Fires along the right-of-way which are caused by "exhaust sparking" attributed to metal-containing additives in conventional railroad diesel lubricating oils can now be eliminated. How? Switch to completely ashless Gulf Dieselmotive 470.

This was demonstrated in three years of service in locomotives operated in the East Texas area. Here, right-of-way fires are a common occurrence. This is due to atmospheric conditions and the type of vegetation in this locality. During this three-year period of service not a single right-of-way fire was attributed to exhaust sparks from locomotives using Gulf Dieselmotive 470.

To learn more about the many other advantages of completely ashless Dieselmotive 470, write today for our brochure which contains further test data with engine photographs.

Gulf Oil Corporation,
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It's a helluva way to run a railroad. A helluva good way.

Regardless of your taste in colors, we'll customize our cars to match. That's our business. And, if you want plug doors instead of sliding doors, roller bearings instead of friction bearings, or Hydroframe-60® cushioning* instead of second best, that's our business, too. We offer you as many options as there are standard parts. For the custom answer to your special problems, put in a call to Pullman-Standard.

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*Covered by U. S. Patent 3,003,436. Other patents pending.

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WORLD'S LARGEST RAIL CAR MAKER
200 South Michigan Avenue, Chicago, Illinois 60604

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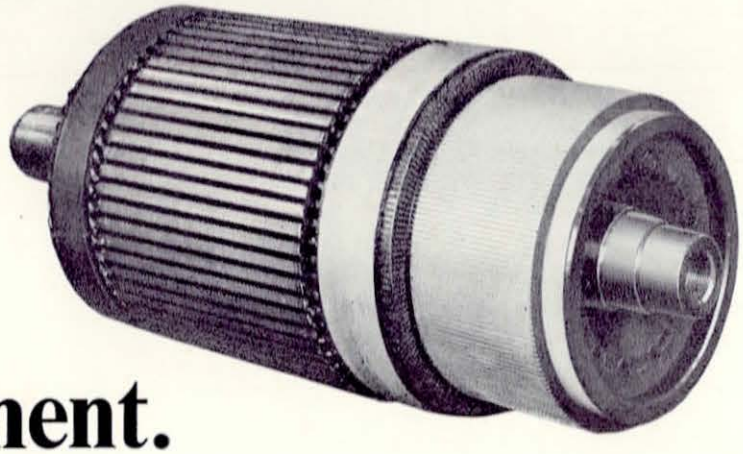


There's only one big difference... it costs less!

General Electric remanufactured armatures offer you new equipment performance at less than new equipment cost. G.E.'s armature remanufacture program requires *all* components, not just those failing to meet minimum tolerances, to be remanufactured to latest standards or replaced with new parts. The result—an armature with performance capability far surpassing that available through normal repair or rewind service.

Factory remanufactured armatures incorporate the latest G-E technological advances in armature construction. For example —new armature coils with 8% more silver bearing copper run cooler and longer, and step-back end punchings with molded U-pieces reduce maintenance and extend coil life. Your remanufactured armature also reflects the latest manufacturing techniques—including a higher retained tonnage core assembly, Spot-TIG welding of armature coil leads for greater temperature tolerance, and armature vacuum impregnation for optimum moisture resistance.

Find out how you can benefit from this modern, cost-saving program. Call your G-E Renewal Parts Sales and Application Engineer today in—ATLANTA—(404) 876-2451; CHICAGO—(312) 663-4141; CLEVELAND—(216) 523-6000; ERIE—(814) 455-5466; NEW YORK—(212) 751-1311; PHILADELPHIA—(215) 568-1800; PITTSBURGH—(412) 281-6400; SAN FRANCISCO—(415) 434-2211; or ST. LOUIS—(314) 436-4343. 121-24

GENERAL ELECTRIC

Circle 34 on reader service card

Cost-cutter: Trucks for S&C workers

Track motor cars still play a big role in S&C maintenance. But under certain conditions, railroads are turning to trucks.

Railroads, like Hertz, are putting men in the driver's seat. Signal maintainers and communications linemen are taking to trucks to handle their chores.

Several factors are accelerating this trend to trucks:

—Increased highway construction is making main line signal and communications installations more accessible to industry forces.

—Centralized traffic control has reduced many multiple track mainlines to double track, and double-track lines to single track with passing sidings. Increased traffic on remaining tracks, plus greater use of mechanized on-track work equipment, has reduced available on-track time for motor car usage.

—Trucks frequently provide better utilization of manpower. They can enable a man to cover his territory more quickly because time is not lost waiting for trains to clear.

—Many railroads have reduced maintenance costs by equipping S&C men with trucks because maintainers are able to cover a larger territory.

After installing CTC on 120 miles of line, one railroad spent $90,000 to equip its signal maintenance men with highway trucks. This expenditure was $30,000 less than would have been necessary to provide a track motor car indicator system to provide information concerning approaching trains.

● **Motor cars still important.** Although the trend is to more truck use, track motor cars are still advantageous in mountainous or hilly country, on branch lines and on lines handling light traffic. Where highways are not readily accessible, it most often pays to use a track motor car. One important development is trucks equipped with flanged wheels for rail movement. Quite a few railroads have furnished maintainers with these flexible units, which give the signal maintainer or communications lineman the ability to travel by highway to a road crossing, then via rail to the point of maintenance. But there must be a set off point or siding so that he can clear for trains.

Where it can be advantageous some railroads provide S&C maintenance men with trucks as well as track motor cars. For example, a signal and communications supervisor on one railroad reports that on section linemen's territories where trucks are furnished, trucks are equipped with motor car carrier bodies and small "A" frames for setting poles.

"Our deciding factors," he says, "in furnishing trucks are as follows: (1) length of territory. (2) Improved maintenance over longer territory. (3) Reduction of wire trouble clearance time on important circuits day or night. (4) Reduction of lost time due to operating motor car in heavy rail traffic, snow, wind and severe weather conditions. (5) "A" frame used by section lineman in setting poles eliminates necessity of extra men. (6) Reduction of personal auto expense vs. company-owned truck."

On the Louisville & Nashville, 95% of the signal maintainers are equipped with trucks to carry tools and equipment to work sites. Approximately 85% of these trucks are equipped with flanged wheels for operation on track. A maintainer who does not have flanged wheels on his truck is normally assigned a track motor car too. J. I. Adams, general superintendent communications and signals, states that track motor cars are provided for those signal maintainers who do not have trucks. "Our maintainers do not normally have assistants or helpers and, therefore, are furnished with trucks."

● **Manpower utilization.** Neil S. Lewis, regional engineer signals and communications, Norfolk & Western, states his road's policy with respect to trucks: "Our decision to provide trucks is based on one single factor more than any other. This is the need to utilize our men to a better advantage. As the signal art progresses we find we must maintain more and more equipment with the same manpower. In order to do this it is necessary to reduce unproductive time to a minimum.

"We feel that we can longer afford to have a highly skilled, highly paid man on a motor car waiting in a passing siding for a train to pass.

"Providing trucks allows us to get the signal and communication maintainer to a trouble location quickly. This flexibility frequently prevents or minimizes train delays." ■

PATH busy with $2-million signal work

A $2-million signal rehabilitation program for the Port Authority Trans-Hudson Corp. will be completed by the end of this year. By April 1, the major part of the replacement of old equipment will be completed.

This program, says PATH, is part of an over-all effort designed to give 100,000 daily commuters between New Jersey and New York City "the most modern and convenient rapid transit service possible. When completed, the resultant benefits will be more frequent service, more reliable schedules and shorter running times, as well as operating economies inherent in an efficient, modern signal system."

The system will incorporate such features as automatic dispatching, centralized traffic control, improved operating headways and provisions for monitoring all wayside functions.

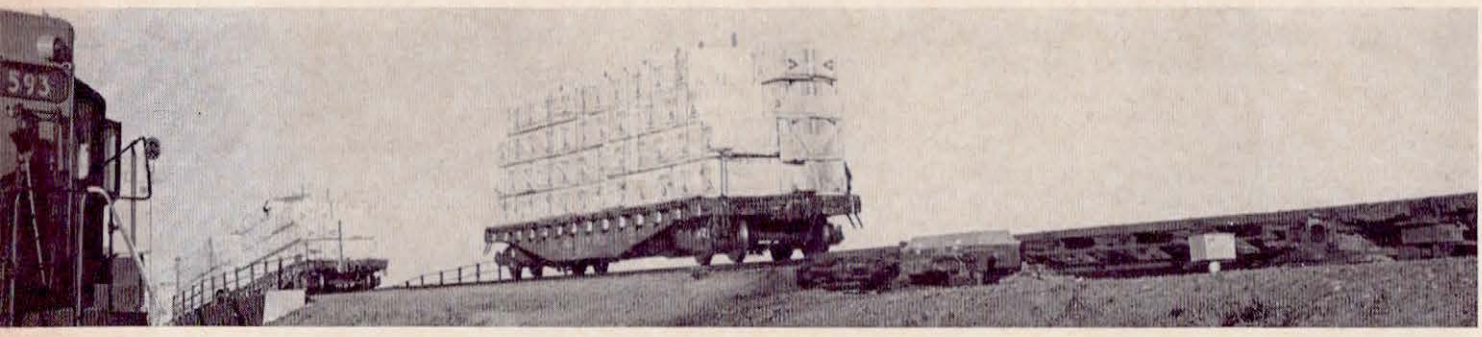
The major work in the signal rehabilitation program was the replacement of old signals, cables, relays and other eqsipment. Respacing of signals was accomplished to handle the new cars, which have a speed capability of 70 mph. Additional signals were installed at station approaches where heavy rush hour traffic necessitates longer station stops. These signals are speed-controlled to permit a following train to close in at low speed.

The final phase of the signal program includes the installation of signal equipment at interlockings and at Hudson Terminal in downtown Manhattan. This will permit automatic operation of interlockings and will provide for remote monitoring and control at the Hudson Terminal CTC console. The CTC console will provide for overriding the automatic operation in the event of service deviations.

The work of this final phase, estimated to cost $451,000, will also include installation of logic relays for train identification and route selection, cable and modern solid-state code equipment to transmit controls and information between field interlockings and the control center. In addition, local control panels will be installed at principle terminals to permit local override and control when conditions require. ■

The picture brightens

Railroad L&D-prevention programs are affecting freight wherever railroads come into contact with it. Contact points range from shippers' docks to over-the-road freight trains like the Rock Island hot-shot to the southwest (above), or Great Northern's Gavin Yard (below). Experts think there could soon be a substantial payoff from the widening quality-control effort.



Beefed-up quality-control programs are already paying off on some U. S. railroads. There were more winners in the L&D-prevention crowd in 1965 than there have been in years. And there were many more shippers applauding industry L&D-prevention programs than there have been in many, many years (see Traffic Poll, p. 72).

Roads like Baltimore & Ohio, Boston & Maine, Burlington, Missouri Pacific, Illinois Central, Louisville & Nashville, New York Central, Norfolk & Western, Rock Island, Santa Fe, Seaboard and others checked in with less loss-and-damage payout in 1965. Other roads report reduced L&D ratios.

Some of the decreases were small. Some were substantial. Santa Fe, for example, chopped $1 million from its 1964 L&D payout. Rock Island reduced its L&D payout $165,974. Seaboard knocked $80,000 off its L&D bill. L&N and B&M reported savings of $114,986 and $183,379, respectively. And these achievements were gained in the teeth of basic economic trends working against L&D-prevention men. As experts see it, even a stand-off in L&D performance represents a victory in view of rising labor costs, reduced freight rates since 1958, lighter materials used for bottles, cans and containers and other meaningful factors behind the industry's L&D performance.

● **It still hurts.** Over-all L&D payout was still a shocker—no matter how it happened. It was a shade under $150 million in 1965. However, that figure represented only a 2.7% rise over the 1964 L&D payout—compared with 1964's 7.4% rise over 1963, and that year's 10.1% rise over 1962.

All experienced railroad officers know of the incredible array of factors involved in bringing L&D trends under control. Stepped-up programs of transportation quality control structured in the last couple of years may not yet be reducing industry L&D payout totals but they are showing up in important indices. Railroad L&D performance in 1966 and in years to come give indication of substantial improvement. L&D betterment will come from such facts and factors as:

—Increasing top management awareness of the vicious costs of L&D in terms of both money and dissatisfied customers.

—More and more equipment is tailored to specific commodities and is equipped with devices designed to protect lading-in-transit. Such equipment is pouring into the carfleet in record quantities as capital-spending programs continue year after year.

—The dramatic increase in the number of railroads using computers to get profiles of L&D performance by commodity, station, shipper, consignee and equipment is leading to much more specific action by industry L&D-prevention experts.

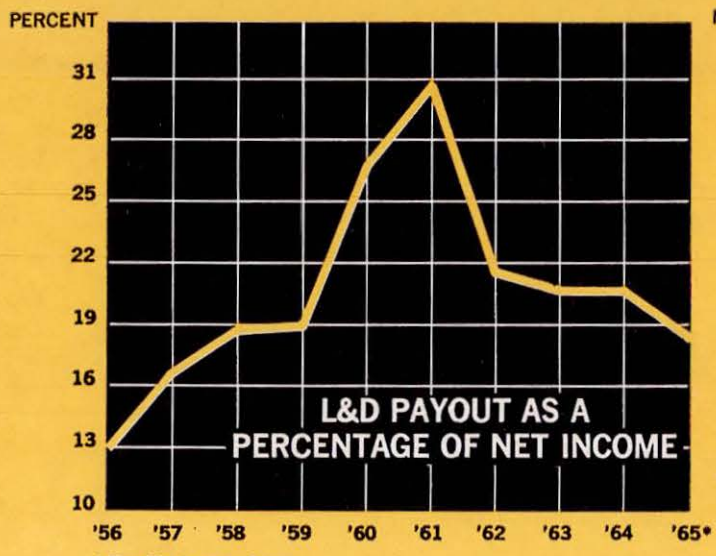
—Equally dramatic results are coming from the upswing in the number of special agents being thrown into the battle against L&D.

—An increasing percentage of shipments that trigger an OS&D (over,

1. Of roads representing 93% of U.S., Canadian and Mexican mileage

2. Preliminary figure

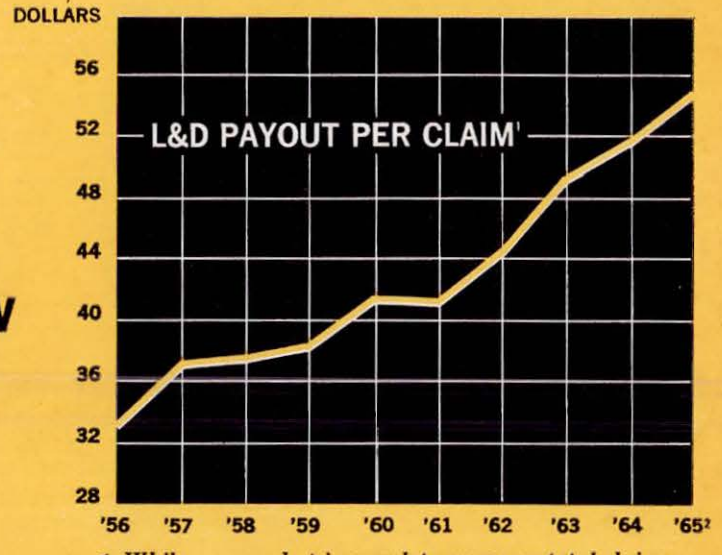
**Preliminary figure*



**Preliminary figure*

**Preliminary figure*

The loss and damage story at a glance— What the figures show



1. While a somewhat incomplete measure, total claims divided into L&D payout does indicate a sharp trend

2. Based on preliminary figures

short or damaged) report are being inspected by railroad personnel on-the-spot.

—Railroads spent more money on quality-control efforts in 1965. They will be spending more on L&D prevention in 1966 and years to come.

—Fewer and fewer shipments are resulting in L&D claims. The industry has reduced the number of L&D claims from 3.4-million claims in 1956 to 2.7 million in 1965.

● **Industry activity high.** These trends show up in a Railway Age survey of large U.S. and Canadian roads (railroads representing the vast bulk of the L&D outlay every year).

Of 25 roads reporting, 15 said their L&D payouts were higher in 1965 than in 1964. Ten reported less L&D payout.

On spending for L&D prevention, 11 roads reported laying out the same amount in 1965 as in 1964. Several of those roads noted they were already leaders in quality-control expenditures. But 14 railroads reported spending substantially more in 1965.

For 1966, 11 of the reporting roads say they will spend the same amount in 1966 as they did last year—14 say they will spend more.

● **More manpower.** Many of the responding railroads said they had thrown more manpower into their quality-control programs. Added manpower was reported by ten railroads that increased the staff of their L&D-prevention department. Much more added manpower was represented by 21 railroads of the 25 that said they were getting increasing help from their special agents. Several railroads, in fact, have merged L&D-prevention forces and special agent departments.

● **Computers help.** Most impressive and, in the view of many experts, one of the most promising trends was the upswing in the number of railroads using computers to clarify L&D claim trends for L&D-prevention officers.

When Railway Age surveyed L&D-prevention officers in 1963, only four railroads were attempting to superimpose computerized order on the flood of L&D claims that all large roads have. Now, 20 railroads report using computers to get a more accurate picture of where L&D dollars go.

Here is Railway Age's special report on L&D; what railroad "cops and computers" are doing to the industry's L&D-prevention capability, what experts say about this important battle, what the industry's prevention specialists for perishable commodities are doing and what shippers think about L&D trends. Here, also, is a showcase of some new devices suppliers have come up with to help in the continuing campaign to improve transportation quality control.

BIG VICTORIES in the railroads' ever-more-successful struggle against the loss-and-

NEW ATTACK ON L&D

How cops and computers help

Victories in the anti-L&D war are becoming more common as railroad personnel learns to take maximum advantage of data provided by the industry's growing number of computers.

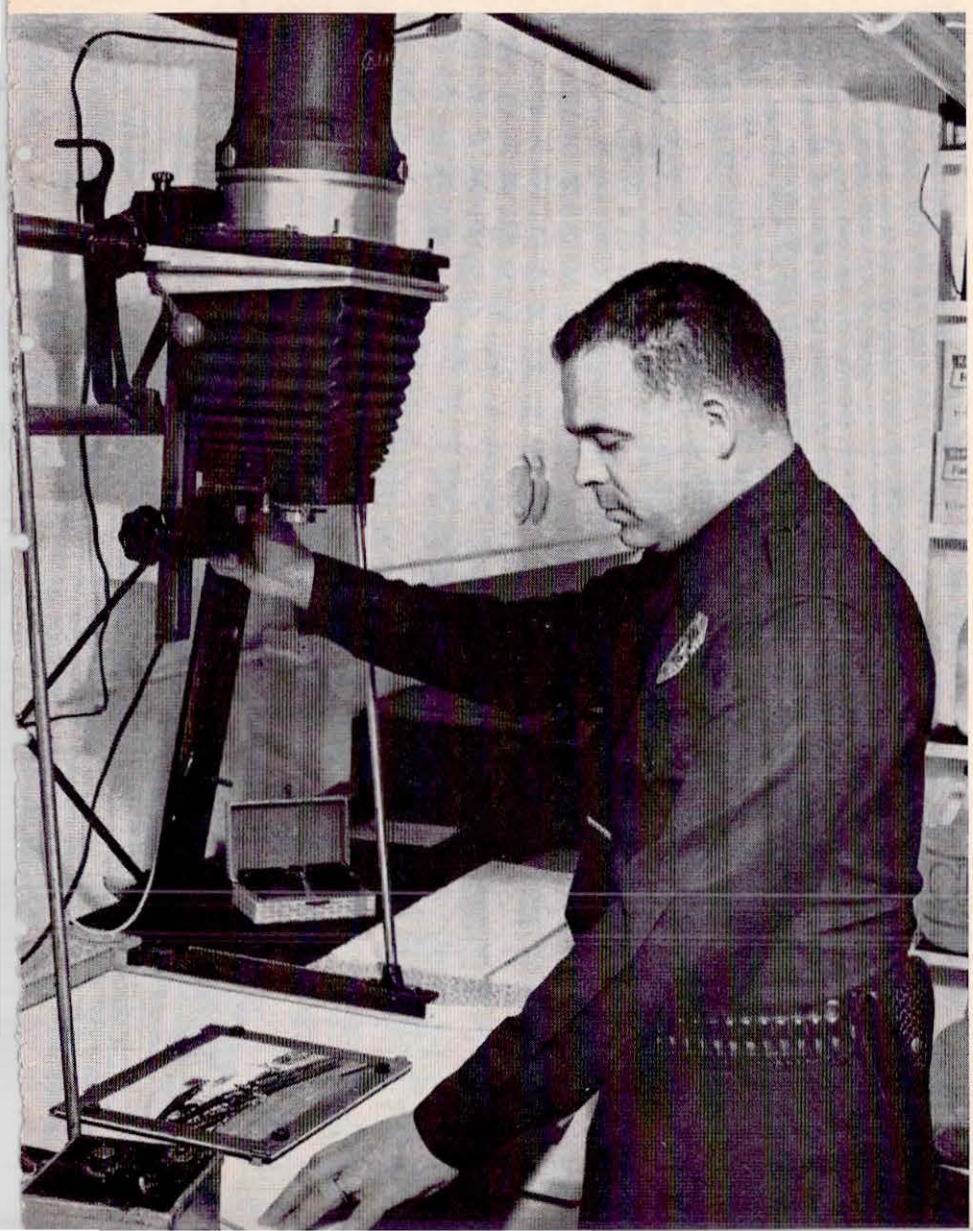
L&D-prevention men have always had a good supply of loss-and-damage horror stories. Practically all the pet stories illustrate how cash losses were sustained by their company from carelessness, rough handling, dishonesty, theft and collusion. They also indicate the general awareness that railroads are scrupulously fair in honoring (and not too careful about checking) claims against them for L&D to shipments.

However, even L&D experts are shocked at what is turning up lately as railroad special agents join the fight against L&D and as computers begin to focus merciless spotlights on shippers, consignees, commodities and stations involved in substantial and repeated L&D claims.

Here are some examples of L&D horror stories turning up as L&D-prevention experts utilize their new "cop and computer" capability:

—One carrier, as a result of a profile constructed by computer from OS&D (over, short or damaged) reports, discovered that one movement of cars, operating from one warehouse to another in a Midwestern city, earned average revenues of less than $25 per car. Hundreds of such cars were moved every month. Claims for the traffic averaged more than $70 per car—over a longer period of months than anyone

damage enemy are based partly on the use of computers (above), policing forces (below).



at that particular railroad cared to reveal. Said one of the road's men, "It really wasn't too surprising. Our L&D-prevention experts sat in one office, our traffic men sat in another office—and never did the twain meet. Not, that is, until we got going with our current program.

"Our computer now gives us facts that help us overcome the stony indifference of our traffic people to what happens after they get some traffic—and our special agents give us the manpower to keep an informed eye on situations where either a shipper or consignor needs help in knowing how to avoid L&D to his property or where there is something else going on."

—Another railroad recently received a request for an inspection from a consignee who had gotten a car across town from a warehouse. The OS&D clerk waived inspection over the phone. The claim was for $9,120. Revenue from the car was $21.60.

—A small town agency in the West for 20 years had not had a railroad man look at shipments against which consignees were filing OS&D reports. As a result of a computerized profile of who was collecting claims and for what commodities, the road's special agents paid a visit to the agency. They discovered, among other things, that a consignee was regularly returning substantial amounts of flour as damaged—when, in reality, the flour was in bags several years old. It was flour that the consignee had accepted back from his customers when they were unable to sell it.

"We further discovered," says the road's chief special agent, "that the same consignee has two warehouses, one in a nearby town where we have another agency. That agency had had a high claim rate until a new agent began checking OS&D reports. He refused to accept them. Claims from that consignee dropped to nothing at that station—and rose correspondingly at the nearby agency where OS&D requests for inspections had been waived for more than 20 years.

"Now, since our people know that all OS&D reports go right into our computer and since our special agents are checking them out, our people are getting shy about waiving inspections."

—Another carrier, keeping computerized track of OS&D reports by shipper and consignee, has been able to establish meaningful patterns by making comparisons of claim performances. Says the road's chief special agent: "We discovered, for example, that a shipper in the Southwest was sending numerous identical cars of identical commodities to two consignees within a couple of miles of one an-

other in the Midwest. One of the consignees, month-in-and-month out, reported L&D averaging $44 per car. His neighbor's L&D averaged $77 per car. Some close checking has worked wonders with the railroad's L&D payout in both cases.

"We were paying for goods that were damaged either before or during loading—and we were also paying for stuff that got damaged in the one man's warehouse months after it had been delivered by rail."

—Still another railroad discovered that claims it was paying to a beer distributor for breakage were largely unjustified. One of the road's special agents (who had overheard a bartender tell a customer that he saved broken bottles for his distributor so he could "collect from the railroad") inspected the next OS&D report that came in from that distributor. Among 27 cases of various products stacked up in a corner of the warehouse were cartons of rusty cans, cartons that, below the top layer, were filled with beer cans that had been opened, cartons of broken bottles with bent caps forced back into place and with Coca-Cola bottles below the top layers. The railroad refused to pay the claim. Claims have been reduced 90% from this distributor.

"Our OS&D reports, when they go uninvestigated, are like giving people blank checks on the railroad," says that road's L&D-prevention chief.

The stories are endless. Successes in combating situations like these are multiplying—especially on the roads that have already meshed their L&D-prevention forces and their special agents to take maximum advantage of the new data and insight into the L&D problem that are coming out of the industry computers.

• **More special agents.** Roads that have already completely meshed their L&D-prevention departments and their special agent forces are increasing. Just a few years ago, L&D-prevention officers were a lonely and not-often-listened-to band of alarmists as L&D trends began skyrocketing in the late Fifties. Now they are getting powerful allies and help from top management and from railroad police and computer experts.

Operating officers, mechanical officers and top management are being drawn into the effort to reverse L&D trends. Roads like Frisco, Santa Fe, and Louisville & Nashville, have already completely merged their L&D-prevention forces with their special agent departments. Other roads, like Illinois Central, Seaboard, Missouri Pacific, Pennsylvania, New York Central, and Norfolk & Western have established close ties between such departments and are getting greatly expanded L&D-prevention activity.

Burlington's new president, L. W. Menk, last November reorganized his road's L&D-prevention activities and started the close cooperation between special agents and L&D-prevention officers that has already resulted in a dramatic increase in CB&Q's inspections of OS&D reports. Special agents are cooperating in L&D-prevention work to a lesser, but important, extent on Great Northern, Union Pacific, Western Pacific, Baltimore & Ohio, Boston & Maine, Chesapeake & Ohio, Chicago & North Western, and other roads.

• **Manpower is key.** Proof of the betterment is obvious: There are a lot more people worrying about L&D when special agents are thrown into the fray.

Santa Fe's L&D-prevention force (and it was a substantial one before being merged with the road's special agents in late 1961), numbered 23 men and a 30-person office force. Santa Fe's special agents numbered 176 officers and men and they had a 9-man office force. The merged departments could apply the efforts of 238 people to Santa Fe's quality control effort. As a result of stepped-up effort since then, Santa Fe now has 255 people working on L&D prevention. And it is showing up in the road's L&D ratio. That was reduced from 1964's 1.83 to 1.59 in 1965—enabling Santa Fe to save almost a million dollars in L&D payout last year. And it promises to get better.

John Hastings, Santa Fe's top L&D-prevention officer, says, "Our January 1965 ratio was 1.88—while our January 1966 ratio dropped to 1.80. So our favorable trends are still working for us. We are also getting fewer claims." Hastings notes that increasing use of his road's computer, use of cameras by his forces and meetings held with Santa Fe employees (964 meetings attended by 25,994 employees in 1965) plus sharply increased inspections, are helping turn the L&D tide on Santa Fe.

• **Railroads help each other.** An activity that may become much more important in time to come is increasing inter-railroad cooperation on L&D. Says Hastings, "We send our L&D-prevention people off-line in connection with our traffic officers, to help our shippers achieve better loading techniques and patterns." Also the possibility of exchanges of information collated by computer comes naturally to industry special agents who have always cooperated closely with other railroad agents, local, state and federal authorities.

On Louisville & Nashville, 43 special agents are making OS&D inspections, handling installation of impact record-

FALSE CLAIM: Case of beer, turned in for a claim, revealed rusty cans and, in bottom row, cans that had been opened.

L&D: The face of the profit-cutting enemy

INSPECTION: An Illinois Central special agent investigates sugar bags upon which an OS&D report was called in.

Computer use in anti-L&D work climbs sharply

ers and even selling salvage when situations warrant such disposal. Increased manpower in the struggle to reduce L&D has, in the view of L&N's Director of Special Services Frank L. Grubbs, been important in achieving the road's reduction of $114,986 in L&D in 1965.

Burlington threw 82 more men into the struggle against L&D when the special agents began supporting the activities of the road's dozen-or-so L&D-prevention experts late last year. Burlington began furnishing Chief Special Agent Mark C. Leininger with OS&D reports. Burlington's special agents began making as many inspections as possible. Says Leininger, "We are now inspecting about a third of all our OS&D reports, we have furnished cameras to our men so they can photograph damaged shipments with a view toward correcting loading practices that lead to damage, and we are checking all our major yards for rough handling."

● **It's working out.** There are already signs of success for the new approach at Burlington. Formerly, says Leininger, it was difficult to get people to focus on L&D-prevention. Yardmasters, trainmasters, and other officers were mainly interested in getting traffic over the road. Now, "Local people are getting more conscious of the need for L&D control and prevention. Just having the special agents involved at agencies and yards has been getting other people interested."

CB&Q has not had any adverse reaction to the use of special agents for inspection of shipments upon which an OS&D report is made. And, reflecting the experience of other roads that have gone this route, CB&Q's L&D-prevention effort has not encountered opposition from the road's traffic personnel—a standard bugaboo to old-time L&D-prevention specialists.

● **Frisco began it.** Oldest of all the merged L&D-prevention/special agent departments is Frisco's combination L&D-prevention/special agent section, which was organized under the leadership of Manager of Special Services A. E. Kerr at the start of 1960.

This highly-regarded L&D-prevention officer recalls that before consolidation of the Frisco's L&D department, claim department and special services department, the L&D-prevention department consisted of six men. "As one can readily see, L&D prevention just had to be a hit-and-miss proposition inasmuch as the inspectors were on the road almost all the time and were not in a position to give proper handling with any shipper or receiver on our lines.

"When we consolidated the three departments, this gave us manpower stationed at all major terminals over Frisco's entire system. Immediately after merging the three departments, we began an intensified training procedure, teaching all personnel all phases of freight loss and damage prevention work. We feel all our personnel in these departments are now in a position to handle any phase of L&D prevention work—and we also feel that the arrangement has worked very successfully for Frisco."

SAL's Superintendent Station Operations F. W. Whitaker, Jr., notes the increasing cooperation between special agents and the L&D-prevention forces on his road: "Our company is using special agents of the property protection department for inspection of automobile traffic at on-coming junctions, intermediate points and destinations, along with other work performed by that department. Incidentally, this additional work has resulted in the employment of a number of special agents which, in effect, has increased our L&D-prevention activities."

More work, more men

G. C. Underhill, Missouri Pacific's general superintendent stations and claim prevention, describes the increasingly close ties between L&D-prevention and special agents on MoPac thus: "While the special agents' department has a separate identity from the claim prevention department, their functions and activities in investigating shortages and pilferages, and the close cooperative efforts maintained between the two departments, are prime contributors to our L&D-prevention efforts. Without their valuable assistance, claim payments would increase."

N&W's special agents also work closely with that road's L&D-prevention forces. Says an N&W spokesman, "Our special agents are well aware of L&D-prevention activities. They work at it constantly and most effectively. Our special agents are an integral part of N&W's claim-prevention program."

● **What's behind it all?** Some people wonder at the sudden upsurge in cooperative action by L&D-prevention men and special agents. After all, the two departments had co-existed for almost a hundred years on most railroads without ever displaying the least interest in one another.

Experts think the present trend is based upon two important aspects of the industry. First, the dwindling industry work force has resulted in shrinking percentages of OS&D reports being investigated by railroad personnel. Secondly, a new possibility for action has opened up because of railroad computerization and the new ability to sort, separate and summarize L&D performance in terms of shipper, consignee, station, commodity, equipment, frequency, route and other important factors.

Special agents, with already-established offices and networks around the systems of all major railroads, represent a ready-made extension for the L&D-prevention officers' know-how. That, in conjunction with the flood of highly specific and useful data and knowledge that is suddenly coming to the aid of the L&D-prevention specialists, is reviving this once-plodding activity into one of the hottest, most exciting activities going on in the industry.

"Without the computerized look that we're getting at our L&D trouble-spots," says an L&D-prevention expert, "we'd not really be able to use additional manpower represented by our special agents. As it is, we're rapidly expanding to take care of all the situations we now know about and can rectify—thanks to our computer printouts."

● **Steady growth in computers.** A computer "look" at L&D problems is being taken by more and more railroads. When Railway Age first surveyed L&D-prevention men, asking whether they were using computers, back in 1963, only a few were. Now, 20 of 25 roads surveyed reported using computers for analysis of where their L&D dollars are going.

On the other side of the new L&D-prevention/special agent partnership, the new approach is considered a Godsend. One chief special agent says: "We were going right down the drain because of a quirk in L&D reporting rules. Our management would look at theft figures every year, note that the figure was less than what we were paying for protection—and immediately decide to chop a few men off to save expense. It was hardly realistic inasmuch as real theft on railroads is probably higher than it has ever been before, what with the decline in employment exposing facilities and shipments, and with the development of new techniques like TOFC tempting people more than ever before." He was pointing a finger at the requirements in

rules—because of interline responsibility for claims—that a loss be reported as unlocated loss rather than as theft.

● **Some lag behind.** Another trend that may assume importance in coming months is the rising resentment of the carriers that are doing their share (or more) for L&D prevention against those carriers lagging behind in this vital effort.

Notes one L&D-prevention officer, "We're going after L&D before it hits our railroad. We're stepping up seal-inspections at interchange points and turning back shipments that could result in our getting stuck with a claim. We have neighboring roads that don't even check cuts delivered to them. And they don't make a move toward getting at the L&D problem. They're going to have to shoulder their part of this campaign—or they'll soon find themselves paying a lot more for L&D than the rest of the carriers, the ones doing something about the problem."

It is, as one L&D-prevention veteran puts it, the best and liveliest era ever for the men who have spent their lives working in this discouraging field. "For the first time in my forty years as an L&D-prevention man, I can actually see hope that we'll get a grip on this problem." He also noted the increasingly cooperative climate the L&D-prevention men feel when they visit traffic managers (see Traffic Poll, p. 72).

It will be an important accomplishment. With the industry pressing the competition, with profit margins on particular traffic shrinking as the industry holds the price line, and with the need for quality-control of transportation at an all-time high because of competitive requirements, reduction of the industry's $150-million L&D bill would be a double bonanza. The savings would be important. The additional goodwill of shippers and receivers would be even more important.

LOSS AND DAMAGE

Optimism increases among anti-L&D men

Many factors—more money to spend, added manpower and modern equipment—have cut the gloom that formerly prevailed.

Railroad activity against L&D is apparently rising fast.

The growing interest of top-management in this complex, difficult facet of railroading is reflected by the millions of dollars being spent for equipment and devices aimed at reducing L&D. It is even more apparent in the expanded budgets, increased manpower and widespread use of special agents and computers that L&D-prevention experts use nowadays.

These are some of the reasons why optimism is increasing among L&D-prevention men. The optimism is in sharp contrast to the gloom that prevailed just a few years ago. And their optimism is based solidly upon a sharp upswing in the percentage of shippers who feel the L&D situation is getting better (see Traffic Poll, p. 72).

● **For example . . .** Santa Fe's Manager of Better Freight Handling & Special Services John L. Hastings is a case in point. He is cheerful and bullish about the L&D-prevention outlook. And well he might be. He reports Santa Fe's L&D payout for 1965 is down about a million dollars.

How did Santa Fe do it? The road spent more money on L&D prevention in 1965 than in 1964, it increased its L&D prevention forces, it has completely involved its special agent force in all aspects of L&D-prevention work, and it began using its computers to aid in the effort to eliminate L&D. The road has increased inspections of shipments upon which claims are filed—and plans to do even more in 1966 trying to transfer L&D cash to its income column.

● **More L&D effort ahead.** "We had less L&D payout in 1965 for 27 of the 37 commodities we carry and also reduced loss from nine of the 11 causes for L&D," reports Hastings. "It is our hope we can continue to keep up our all-out attack against the causes and the commodities which we failed to improve upon in 1965. We'll put more emphasis on the AAR's four-point program—to improve equipment, get accurate knowledge of the causes of L&D from factual inspections, to involve operating personnel for reduction of rough handling and to upgrade Santa Fe's prevention organization and activities."

Other roads' L&D-prevention experts reflect this widening industry attack on L&D.

Says Pittsburgh & Lake Erie's auditor of revenues, A. R. Fischl, "As the result of ever-increasing amounts paid for L&D, and the awareness of management of this fact, the trend in past years was toward accommodating shippers with specially-equipped cars for handling specific commodities. I believe this trend will continue, on a large scale, as more cars are built or converted into special cars for hauling specific commodities."

● **SP tackles L&D studies.** Southern Pacific, long a leader in L&D-prevention activities, has stepped-up its already considerable effort. J. W. Germany, (the SP's manager, specialized operations—system), points out that basic economics are working against the industry's L&D-prevention effort: "Labor rates, which have a direct bearing on recoopering and reconditioning costs, have risen from $2.11 in 1958 to $2.54 in 1964; rail freight rates have been reduced since 1958; lighter basic materials are being used in bottles, cans and containers, and products carried are probably lighter structurally and therefore subject to more damage."

SP is offsetting these negative factors by even more L&D-prevention effort. Says Germany: "We have increased our fleet of Hydra-cushioned cars and cars equipped with load divider equipment and other interior fittings; we have increased our local station inspection forces, we have expanded training, we have a new retardation system going into operation this summer at Eugene, Ore., we have just finished an extensive study of plywood shipments in cooperation with the plywood industry, a joint SP L&D-prevention/claim department task force is now visiting freight stations and making a thorough study of all prevention/claim practices, an intense study is under way aimed at reducing L&D to 'white goods' [major appliances], and we began a computerized analysis of claims in January."

Missouri Pacific's general superintendent stations and claim prevention, G. C. Underhill, reflects basic top-side support when he says: "It is our intention to further increase our activities

(Continued on page 67)

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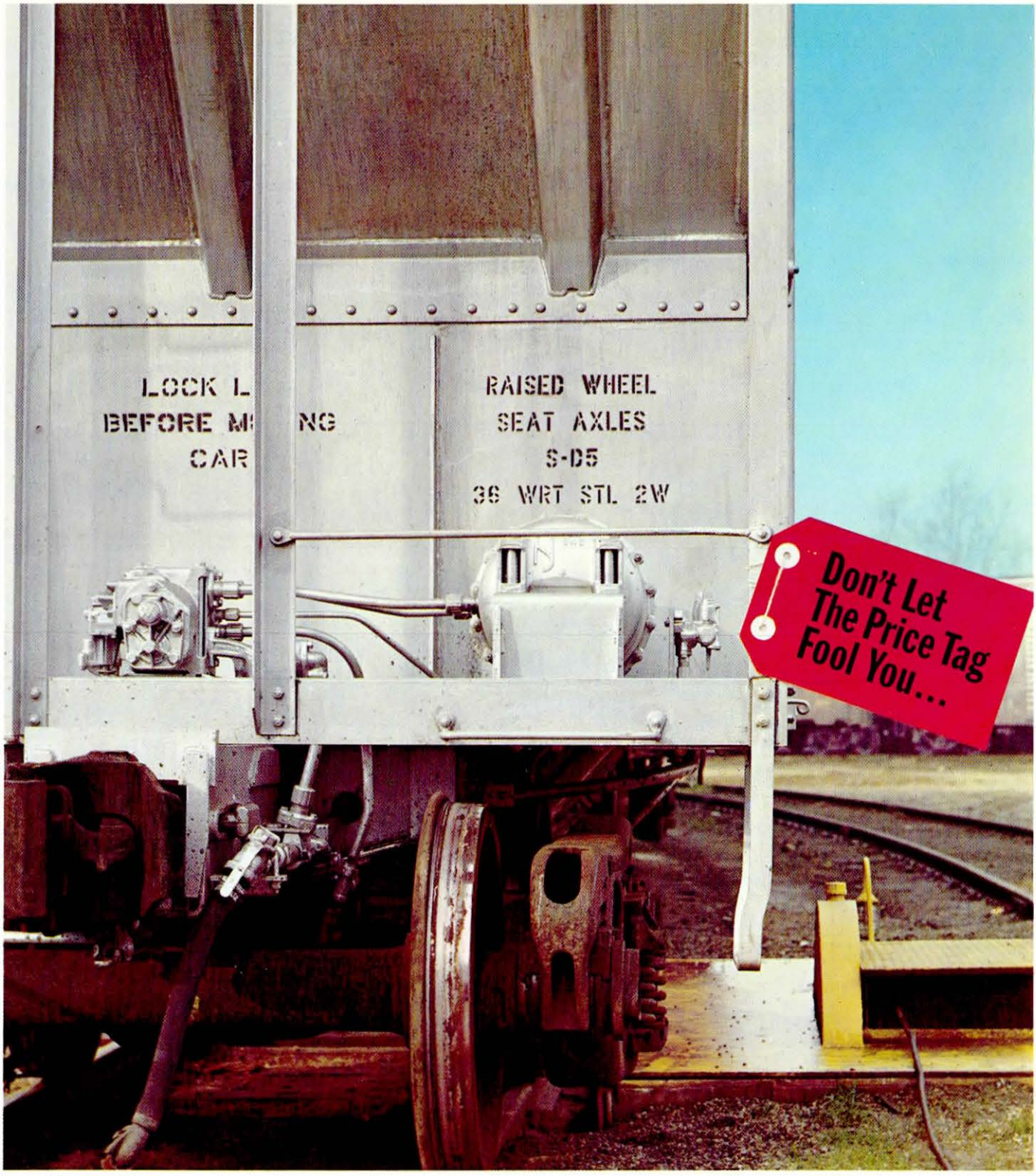

aluminum cars are
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(or lease)

Experience–and cost accounting –prove aluminum cars will actually cost less and earn more over their lifetime than steel cars.

You do pay a premium, initially, for an aluminum freight car. It averages about $4,000 over the price of a steel car. (A recent bid showed a spread of only $2,300.) But when you consider the total cost of the cars and their revenue-producing capacity over their service lifetime, there's no question that the aluminum car has a major advantage.

Basic, of course, is the lower tare weight and higher capacity of the aluminum car. A 4,750 cu. ft. aluminum covered hopper can carry 13,500 lbs. more payload than a typical steel car of comparable size. In cars ranging from 2,600 to 2,900 cu. ft., aluminum gives you a 16,000 lb. payload advantage over steel.

Extra Payload Pays Off

With this sort of payload advantage, it doesn't take many trips per month for an aluminum car to produce a sizable extra revenue. The following table shows how much added revenue an aluminum car can produce on two-turn-arounds per month, with various per-ton rates:

Added Revenue Earned By Aluminum Covered Hopper Car Over Comparable Steel Car—Based on 6¾ Ton Bonus Payload

Rates Per Ton	Revenue Additional Per Trip	Revenue Additional Per Month	Revenue Additional Per Year	Revenue Additional Per 15 Years
$ 1.00	$ 6.75	$ 13.50	$ 162.00	$ 2,430.00
2.00	13.50	27.00	324.00	4,860.00
3.00	20.25	40.50	486.00	7,290.00
4.00	27.00	54.00	648.00	9,720.00
5.00	33.75	67.50	810.00	12,150.00
6.00	40.50	81.00	972.00	14,580.00
7.00	47.25	94.50	1,134.00	17,010.00
8.00	54.00	108.00	1,296.00	19,440.00
9.00	60.75	121.50	1,458.00	21,870.00
10.00	67.50	135.00	1,620.00	24,300.00

Thus, at the end of 15 years, with two-turn per month service and a conservative grain rate of $4.00 per ton, the aluminum car will earn $9,720 more than the steel car.

Lower Operating Costs

Extra earning capacity, however, is just one of the long-term financial benefits that aluminum cars give their owners. Substantially lower operating costs is another.

Because it is 13,500 lbs. heavier on the empty return trip, a steel car travels more ton-miles than an aluminum car in the same service. Ton-mileage, of course, is directly related to operating costs. With less ton-mileage, an aluminum car will require less train fuel, less locomotive maintenance and lubrication, less maintenance of way.

Maintenance Slashed

An aluminum car itself requires much less maintenance than a steel car. Aluminum won't rust, so the car needs no protective painting. Aluminum also resists corrosion and protects cargoes from contamination, so expensive interior coatings are not required. Interior coatings or linings for steel cars cost about $700 per application, and must be replaced several times during the life of the car.

Reynolds economists have estimated that an aluminum open hopper or gondola car in unit train coal service would save over $4,000 in maintenance costs in a 20 year period. This is because the average steel car's side sheets, slope sheets, and crossridge sheets must be replaced at least once in 20 years of coal service; experience indicates this is not necessary with aluminum coal cars.

Extra Dividend in Scrap

There is one more major financial factor to be considered with aluminum cars: scrap value. At the end of its service life, a typical aluminum-body car will yield about 15,000 lbs. of aluminum scrap. (The aluminum car is really an aluminum-body car, with 15,000 lbs. or 30% of its tare weight being aluminum.) Conservatively, an aluminum car would be worth $2,200 more in scrap value than a similar steel car.

Total Cost Analysis

One railroad executive recently analyzed all these factors as they applied to 150 aluminum covered hoppers for general service. He found that the projected 15 year savings in operating costs, maintenance, and scrap value would completely cover the premium in first cost of the cars, and yield an extra savings of $97 per year per car. This study did not take the additional payload and revenue capacity of the aluminum cars into consideration.

Aluminum cars command higher per diem rates for off-line service, so their extra earning power is not limited to "captive" service.

Added Per Diem Revenue with Aluminum Cars

Year	Aluminum Car Value For Per Diem Per Unit (1)	Per Diem Rate	Steel Car Value For Per Diem Per Unit (1)	Per Diem Rate	Differential Per Diem Rate	Added Revenue For Aluminum Cars Per Unit Per Year (2)
1	$19,000	$6.15	$15,000	$6.15	—	—
2	18,430	6.15	14,550	4.50	$1.65	$ 297.00
3	17,860	6.15	14,100	4.50	1.65	297.00
4	17,290	6.15	13,650	4.50	1.65	297.00
5	16,720	6.15	13,200	4.50	1.65	297.00
6	16,150	6.15	12,750	4.50	1.65	297.00
7	15,580	6.15	12,300	4.50	1.65	297.00
8	15,010	6.15	11,850	4.50	1.65	297.00
9	14,440	4.50	11,400	4.50	—	—
10	13,870	4.50	10,950	4.50	—	—
11	13,300	4.50	10,500	4.50	—	—
12	12,730	4.50	10,050	4.50	—	—
13	12,160	4.50	9,600	3.58	0.92	165.60
14	11,590	4.50	9,150	3.58	0.92	165.60
15	11,020	4.50	8,700	3.58	0.92	165.60
Total						$2,575.80
Averages		$5.380		$4.426	$0.954	$ 717.72

(1) Straight line depreciation at 3% per year
(2) Assumed 180 off-line days per year

When a lease arrangement is preferred to outright purchase, Reynolds specialists work with the railroads and leasing companies to get interest rates comparable to—if not better than—those for steel cars.

If you're planning to invest in new freight cars, look at the total cost, the total earning power, of the cars. You'll see why more aluminum cars are going into service every year . . . more of them made with Reynolds Aluminum than any other.

The facts on the previous pages show how aluminum covered hopper cars reduce costs and boost revenue for their owners. Other types of aluminum cars offer these benefits, too: Open hoppers, gondolas, and tank cars all cost less to operate and maintain when they're made of aluminum—and have extra payload capacity, higher scrap value, as well.

The service records of these cars show that their day-to-day economies add up to long-term financial benefits.

Aluminum's light weight, strength, and corrosion resistance pay important dividends in car components and special freight equipment as well as in rolling stock—as proven daily by aluminum car doors, crossmembers, and bulkheads.

Let a Reynolds railroad specialist show you the long-term advantages of aluminum cars and equipment. Contact your local Reynolds office for details or write Reynolds Metals Company, P.O. Box 2346-XY, Richmond, Virginia 23218.

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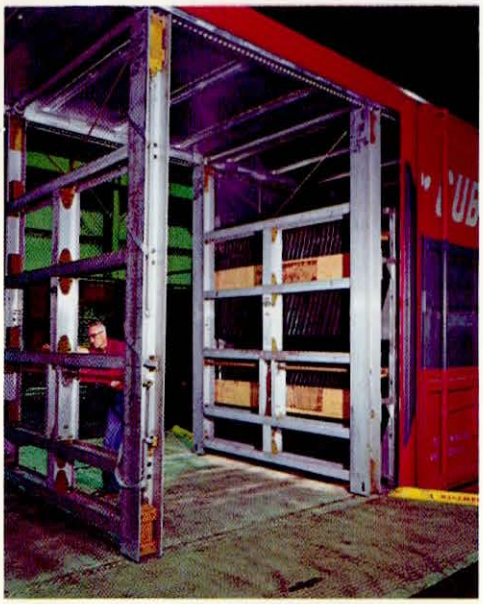

Gondola cars made with Reynolds Aluminum, in daily unit train coal service.

Strong, lightweight bulkheads of Reynolds Aluminum guard bulky freight.

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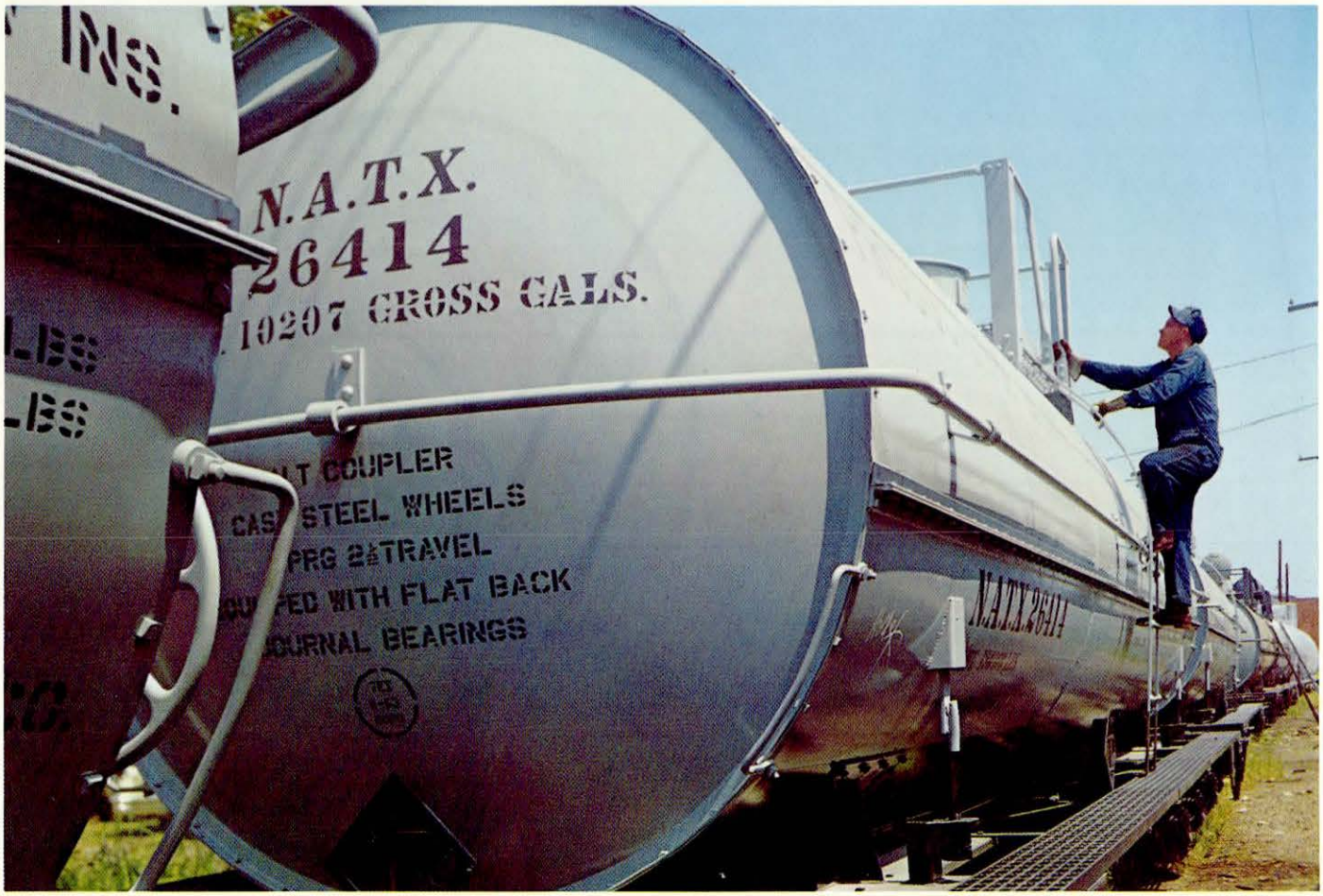


Rough handling is not the main cause of L&D

(Continued from page 62)

and efforts in 1966—which will, of course, increase the cost of our L&D prevention program." Underhill, who increased his staff in 1965, reports a reduction in MoPac's L&D payout in 1965. It was a reversal of the L&D trend on his road.

● **B&M's bill down $183,379.** Boston & Maine's Freight Claim Agent C. E. Carroll (who checked in a handsome 17.4% decrease in B&M's L&D bill for 1965) says his road will continue its stepped-up L&D prevention activities in 1966, after having boosted them in 1965 over 1964.

Explaining the drop of $183,379 in B&M's 1965 L&D bill, Carroll says: "We have increased our inspections by arranging for daily visits to certain receivers so as to be certain of the extent of damage claimed. This resulted in a decrease in the amounts claimed."

● **Not all rough-handling.** Robert H. Macomber, director of Chicago & North Western's freight claim prevention section, reports spending more money on L&D prevention in 1965 than in 1964—and says that C&NW will both increase its force for L&D prevention and spend more money in 1966.

Macomber underscores the need for expanding effort along the entire shipper-railroad-receiver cycle by citing the AAR-Fibre Box Association study made ten years ago. The three-year study with 3,400 cars used handling shipments in fibre-board containers indicated that rail damage from all causes was responsible for 42.5% of L&D, while 57.5% of L&D was non-railroad in nature.

Macomber thinks an all-too-common tendency in the industry is to put all the blame for L&D on rough handling, when the causes are quite complex and varied.

Delaware & Hudson's freight claim agent, E. R. Borthwick, says, "Concentration on specific commodities seems to be indicated and I believe much can be accomplished by special studies on individual commodities. Extensive alleged losses from clear record grain cars is an annoying factor. Continuing and improved destination inspections are always of prime consideration."

Illinois Central's new chief of L&D prevention, E. E. Schlottman, reporting an expansion of inspections as well as a welcome break in the upward trend in IC's L&D payout, says his forces will concentrate on: "Upgrading equipment, increasing inspections at destination points and closer inspections at interchange points."

Kansas City Southern Freight Claim Agent W. A. Sarasin says his company has increased inspections of shipments against which claims have been filed.

● **L&N saves $114,986.** Louisville & Nashville is mounting an all-out campaign against L&D. Frank L. Grubbs, L&N director of special services, reports the road's bill for L&D was $114,986 less in 1965 than it was in 1964. L&N spent more in 1965 than it did in 1964 on L&D prevention—and plans to spend more this year.

Grubbs notes, "We have added two L&D supervisors and in addition have trained 43 members of L&N's special services department to assist in our expanding program. We have increased inspections and plan to increase them in the future. Through the use of computer printouts, we are able to determine not only where our claims are coming from but also what types of commodities are generating claims and the kind of equipment that is giving us the greatest trouble. These printouts are providing us with the directions we plan to follow and concentrate upon."

● **Specific knowledge sought.** Milwaukee's L&D-freight revenue ratio showed a decrease in 1965 and, says R. J. Kemp (Milwaukee's assistant to vice president, claim prevention, refrigerator and merchandise service), he intends to keep the pressure on. "Our road spent more in 1965 on L&D-prevention than we did in 1964 and we will spend more this year than we did last year. We increased our L&D-prevention force, insist upon inspections of shipments against which claims are filed, use computers in our prevention work and are working very closely with our special agents. We are placing our efforts more extensively to certain commodities that are high-claim producing, assigning personnel to such specific commodities to develop facts and take corrective action."

Specialists are suggested

New York Central's L&D bill was down in 1965. The road's director of freight claims, L. F. Battaglia, says NYC spent more on L&D prevention, increased its L&D-prevention force and is using both computers and special agents to combat L&D.

In Battaglia's view, top priority should be given, if unfavorable L&D trends are to be reversed, to "assigning specific individuals to particular shippers, hiring of specialists to relate prevention problems to modern equipment now available, and to the systems whereby the immediate exchange of relevant claim information could be effected through a central computer clearing house."

PRR, which has substantially stepped-up its L&D-prevention activities in recent years, plans to beef up effort and expenditures even more in 1966. A spokesman says PRR is increasing inspections, using special agents to concentrate effort on improved car handling in yards, and looking for computers to eventually provide its prevention organization with detailed data on damaged shipments.

● **N&W computers tackle L&D.** Norfolk & Western, which reported a decrease in its L&D payout, says it has increased inspections, begun using its special agents in its L&D-prevention work and started using its computer to pinpoint claim problems.

A spokesman says N&W's special agents department is "an integral part of N&W's claim prevention program," and that "information made available by computer will enable intensification and channeling of claim prevention efforts with even greater objectivity."

● **CB&Q using special agents.** Burlington has moved against L&D with more money, manpower and computers. CB&Q's L&D bill was down slightly last year. The road is hopeful that massive support in L&D prevention by its 82-man special agent department will continue bending the trends favorably. Inspections are up sharply on CB&Q. A spokesman says particular attention to L&D problems is resulting in the increased use of covered hopper cars and cars equipped with plug doors for bulk commodities, in improved mechanical inspection and upgrading of cars furnished shippers for loading, and in careful car handling programs.

Baltimore & Ohio's L&D bill was down 3.2% in 1965 and the road plans to step-up prevention outlays this year. Utilizing both special agents and computers in the effort to combat L&D, a spokesman noted: "There is increased top management interest and participation. There is also an increase in ownership of cars with cushioning and load restraining devices."

Western Pacific's Freight Claim Agent W. F. Paden reports that while WP's L&D payout rose 9% in 1965, the road's L&D ratio was 1.60 compared with 1.65 the year before. The road increased its L&D prevention expense and force in 1965 and also stepped-up inspections of shipments against which claims were filed. "We cannot stress too strongly the value of car door inspections," notes Paden;

The Loss-and-Damage Story on 25 Large Railroads

Railroad	Was '65 L&D bill up, down, same as '64?	Spent less, same, more on L&D prevention in '65 than '64	Will you spend less, same, more on L&D prevention in '66?	Did you increase L&D prevention force?	Did you increase inspections?	Are you using computers?	Are you using special agents?
A	down	same	more	no	no	yes	yes
B	up	same	same	no	yes	yes	yes
C	down	more	same	no	yes	no	yes
D	up	same	same	no	yes	yes	yes
E	down	same	more	yes	yes	yes	yes
F	down	more	more	yes	yes	yes	yes
G	up	more	same	yes	yes	yes	no
H	up	more	more	no	yes	no	no
I	up	same	same	no	no	no	yes
J	up	more	more	yes	yes	yes	yes
K	up	more	more	yes	yes	yes	yes
L	up	more	more	yes	yes	yes	yes
M	up	same	same	no	no	no	no
N	up	more	more	no	yes	yes	no
O	up	same	same	no	no	yes	yes
P	down	same	same	no	yes	yes	yes
Q	up	same	same	no	yes	no	yes
R	down	more	more	yes	yes	yes	yes
S	down	more	more	yes	no	yes	yes
T	down	same	same	no	yes	yes	yes
U	up	more	more	yes	yes	yes	yes
V	up	same	more	yes	yes	yes	yes
W	down	more	more	yes	yes	yes	yes
X	down	more	more	no	yes	yes	yes
Y	up	more	same	yes	yes	no	yes

"There is a definite need to increase this activity."

● **SAL's effort pays off.** Seaboard's Superintendent Station Operations F. W. Whitaker, Jr., says SAL's 1965 L&D bill was $80,000 less, 5.4% under 1964's L&D payout. Even more impressive, SAL's ratio of L&D payments to freight and switching revenue dropped from 1.02 in 1964 to .92 in 1965.

How was it done? By action, across-the-board. SAL's L&D-prevention effort was beefed-up in 1965, and will be further augmented in 1966. Inspections have been increased. Computers are being used to determine the commodities with which increased L&D prevention work is needed. Additional L&D-prevention activities by SAL's special agents has resulted in the employment of additional special agents and increased effort by that department in claim control.

"We feel that the increased use of CUF equipment, DF loaders and other types of specialized equipment has aided greatly in the reduction of L&D and in resultant claims," Whittaker points out. "Many lines—including SAL—continue to purchase this kind of equipment. SAL will also continue its incentive program in connection with the elimination of rough handling. The program has resulted in a decrease in charges to improper handling and concealed loss during 1965 as compared with 1964."

Union Pacific recently started compiling data from claim payments to more accurately determine where to aim L&D prevention effort for most effective results. A spokesman notes that UP has always had full-time L&D-prevention forces greater in number than those on most comparable roads and that continued attention to troublesome areas is part of UP's continuing effort to combat L&D.

● **Concentration points.** UP feels these are important areas for action: An increase in special equipment, such as covered hopper cars for grain, load dividers and DF cars, adjustable side fillers, cushioned underframes, more detailed L&D data, an increase in L&D-prevention forces by some carriers and inspection bureaus, and, importantly, an increase in the interest of some roads' managements in combating L&D problems. All would be helpful, in UP's view, in bringing the L&D problem under control.

Great Northern feels that particular attention should be given to more comprehensive and detailed inspection reports, to the improvement of the physical condition of freight-carrying equipment, efforts to reduce rough handling and greater over-all L&D-prevention activities.

● **CP increases staff.** Canadian Pacific increased its L&D effort, forces, and inspections last year and is starting to use its computers in L&D-prevention work this month on a test basis. Pinpointed activity paid off for CP, says L. S. Vaines, chief supervisor L&D prevention.

"During 1965 we ran a campaign to reduce damage to canned goods. All shippers and consignees were constantly visited and our efforts to improve loading and handling resulted in claim payments being reduced $3.53 per car. Four extra L&D-prevention representatives were appointed in May 1965 to work on this campaign. Besides saving CP very much more than their salaries, they did much to improve our customer relations."

● **CN researches L&D.** Canadian National began massive action against L&D in 1965 at all levels. CN had instructed its research and development department to "make an exhaustive study of L&D, including the organization and function of L&D-prevention staff, and the investigation and documentation of claims. Larry Hughes, system coordinator of L&D prevention, says the study "indicated a need for improved system-wide coordination of a program based upon analysis of the problem."

Now CN has posted L&D supervisors and representatives in every major freight depot on its system. Regional coordinators and inspectors work closely with these men and with CN shippers. Additionally, CN has aimed at involving every CN man who comes into contact with freight into the battle to reduce L&D.

LOSS AND DAMAGE

Anti-L&D hardware: The list grows

New equipment is the essence of improvement in L&D outlook.

Industry expenditures on equipment designed to reduce L&D are going up, up, up.

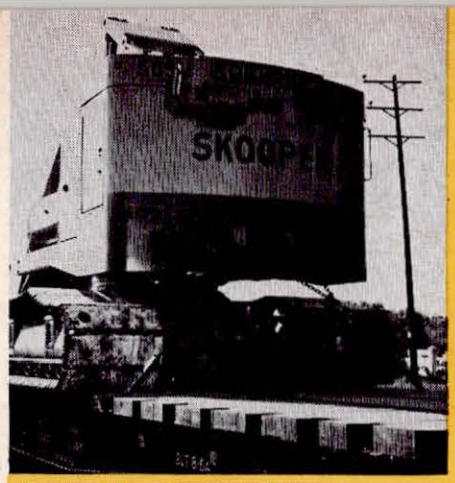
The variety of hardware being bought to battle L&D to ladings continues to grow. Companies are entering the L&D-prevention field with devices that railroad men of even a few years ago never dreamed of seeing. Such devices are, in fact, the essence of improvements in the L&D outlook that railroad customers report in Railway Age's March Traffic Poll (p. 72). Some of the new items are from companies like Evans, Brandon, Equipco and Stanray—companies who have long been factors in the L&D-prevention field. Other items are from established suppliers who have decided to get into this "hot" area of railroad equipment sales. Other items are from companies just entering the railway supply field.

● **Coupler-centering-device.** Standard Railway Equipment introduced a coupler centering device-leaf spring to combat car damage and derailments that sometimes occurred because of the increasing number of cars in use with wide-opening strikers and long shank couplers. Standard Railway Equipment says the coupler-centering device will reduce such mishaps by keeping a free coupler centered in relation to the end sill.

"The device will also allow the coupler, when coupled to another car, to perform the movements necessary for safe operation of the car, such as allowing for draft gear movement of at least three inches in either direction, and a lateral movement of the coupler consistent with the design of the striker," says Stanray.

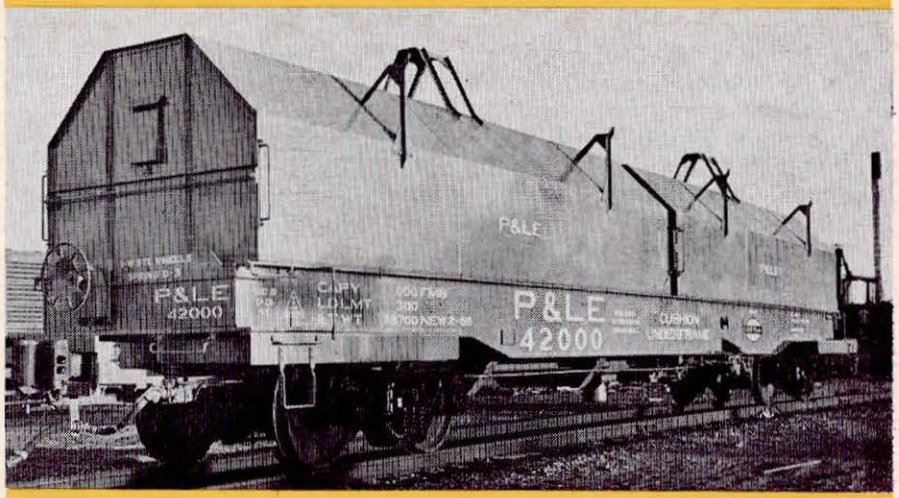
Another Standard Railway Equipment development for the protection of lading is the model "75" removable gondola roof.

● **Two-piece bulkheads.** Evans Prod-

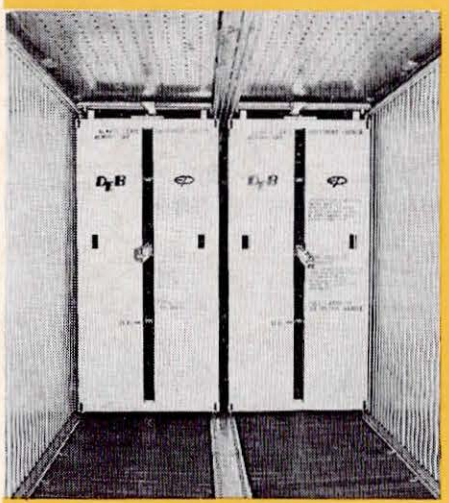


Brandon's heavy tie-down chain system.

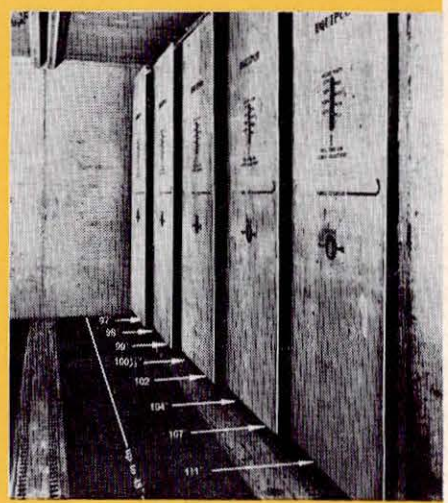
Linde's new Polarstream refrigeration system.



Evans' new 125-ton coil car.

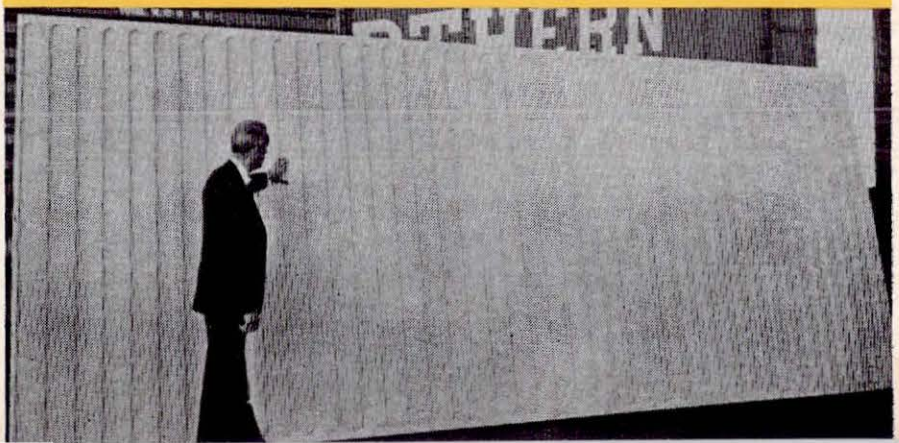


Evans' new two-piece bulkhead.



Equipco's new 8-PL, an eight-position side filler.

Landreth's prefabricated insulating panel.



ucts Co. introduced a two-piece bulkhead device that does not require the use of an "A" frame suspension. The two-piece Evans bulkheads can be pushed flush against each other or flush against the car end-walls, allowing, says Evans, the shipper to get maximum use of car capacity. The bulkheads are equipped with uniformly-timed cog wheels for ease of movement.

Evans has also introduced a 125-ton coil car. The car features a 52-foot trough, has redesigned cross-members and a special system of expanding crossmembers.

● **New side filler.** Equipment Specialties Division of Unarco Industries has introduced a new type of side filler which provides eight different width-positions, plus up to 48 inches of length adjustment. Called the Equipco Type 8-PL, the device enables the shipper to reduce a standard car to any of eight different sizes, including 111-, 107-, 104-, 102-, 100½-, 99-, 98-, and 97-inch widths.

Additionally, says the manufacturer, the 8-PL panels adjust longitudinally to provide up to 48 different length positions.

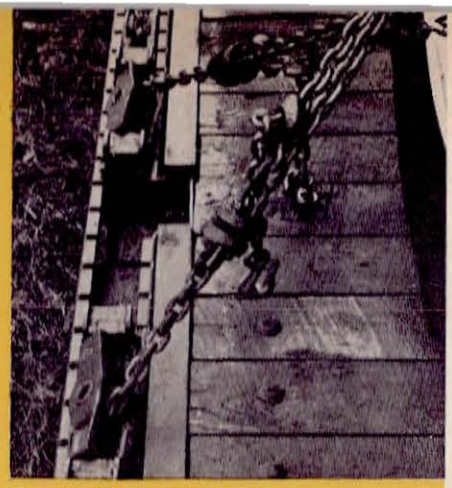
● **Insulating panel.** A product aimed at new car and rebuilt equipment uses is Landreth Industries' insulating panel that comes in prefabricated sections of any size up to 30 feet in length and 10½ feet in height.

The panels combine three inches of polyurethane foam and 1/8-inch of fiberglass reinforced plastic facing. The panels can be used to upgrade existing equipment where there is a need for insulation characteristics to handle certain commodities.

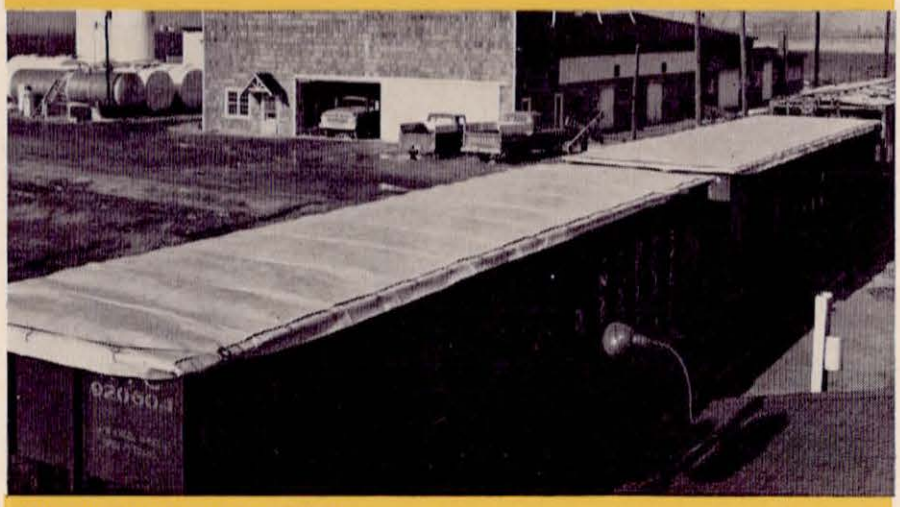
● **Nailable steel doorpost.** International-Stanley Corporation has introduced the Postmaster, a new nailable steel doorpost, a permanent installation which the manufacturer says will eliminate trips to the rip track for doorpost repairs. The unit is designed for use with any existing grain door and, says I-S, cuts coopering time and cleaning time. The doorpost has a smooth surface and has three nailing slots 2¼ inches deep. No extension bands are required.

One-trip hopper covers have also been introduced by International-Stanley. The covers are made from two sheets of 11x43-foot laminated Kraft paper reinforced with scrim. The covers come in two styles. One is installed on hoppers with strapping embedded in each side of the cover. A spring clip secures the cover to the bulb angle of the car. The other type is installed with steel clips, wood strips and sisal twine. The covers were tested on the

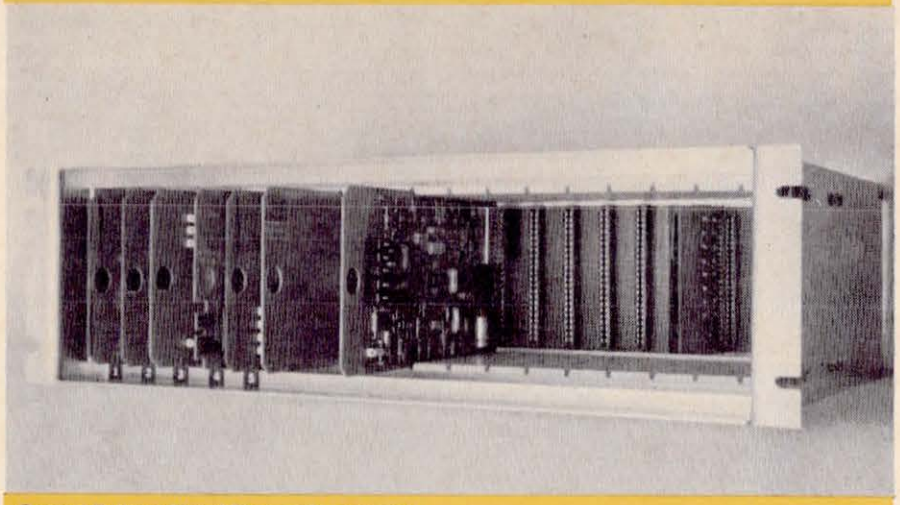
International-Stanley's new nailable steel doorpost.



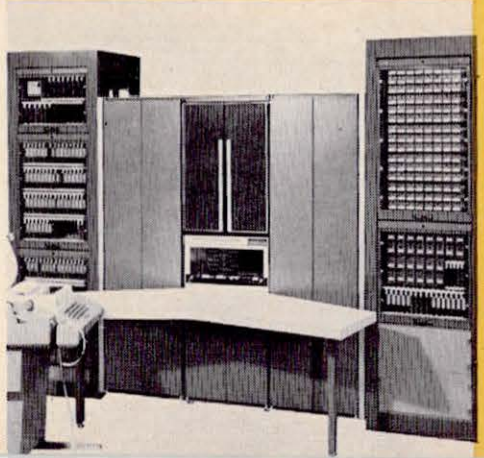
Brandon's heavy-duty winch.



International-Stanley's hopper cover.



General Railway Signal Thermo-Scanner unit.



General Railway Signal digital computer for Southern's Brosnan Yard.

Chicago & Eastern Illinois. The manufacturer says the covers are helping alleviate grain box car shortages by permitting the use of open hoppers.

● **Stake pocket chain anchor.** Brandon Equipment Co. has a newly-developed stake pocket chain anchor. The system is for use with existing, unmodified flat cars to facilitate shipment of track-type vehicles. Brandon's new system has been used to secure shipments of heavy road machinery, tractors and other such lading. Each anchor is designed to withstand a 27,500-pound load limit. Anchors, says Brandon, can be easily repositioned from the deck top to suit vehicle configuration.

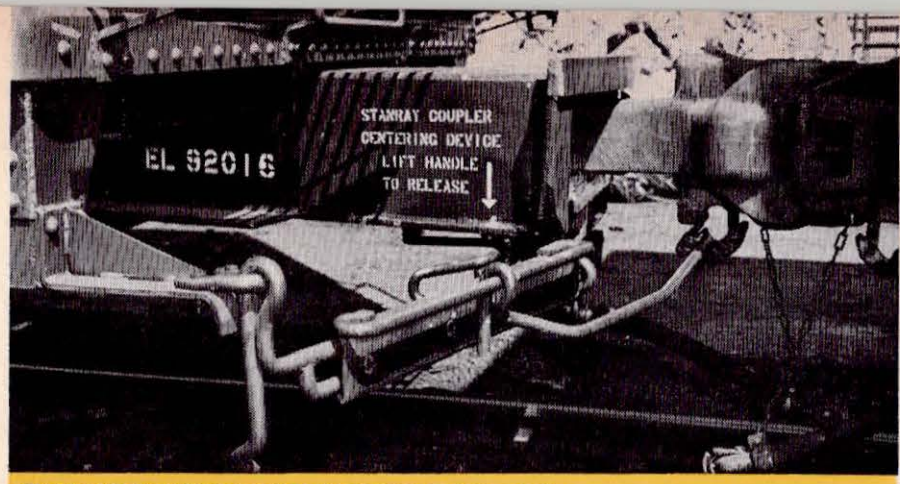
Brandon has also introduced a new heavy-duty universal winch which features double trunion-beam construction for greater strength. It can be positioned in any location along channels on flat car decks, including bolster areas and over stake pockets. The device has a 9-inch wrap of chain around a drum which allows adequate take-up and easy tie-down, and, says Brandon, features full lug engagement under all impact conditions.

General Railway Signal has introduced its "Wheel Thermo-Scanner Unit," which it says accommodates a "wider range of railroad requirements, is easier to install and maintain and is more efficient in operation."

● **'Custom fitting.'** The new GRS device features printed circuit board modules in a 5¼ x 19-inch communications rack case—making possible what GRS describes as "custom fitting" of installations to meet the special requirements of individual railroads and particular locations. The device can be set up for single or either-direction scanning, for single or multiple track, for readout locally or remotely, pengraphed or printed. The device is also adapted for several different modes of data transmission.

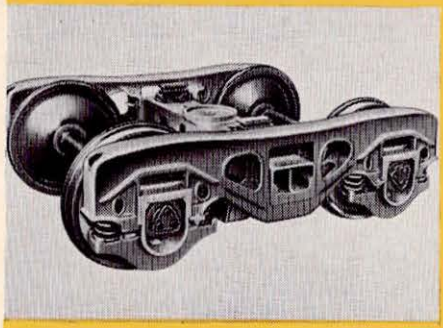
Another GRS device of interest to L&D-prevention men is the Train Multiple Unit-er, a system which can convert any standard locomotive into an automatically-controlled unit within a train, thereby smoothing slack and reducing L&D to ladings in long trains.

● **Digital computer.** GRS has also introduced a digital computer that it describes as a powerful aid to careful car handling in yards. Says GRS: "The digital computer has features which improve over-all yard operation through elimination of human error, provide for automatic reading of teletype taped routing for an entire train, programmed automatic selection of swing, hold, or repair tracks, automatic storage of line and track numbers for each car, automatic catch-up detection and automatic printout of any cars that might have been misrouted by operating switches manually."



Standard Railway Equipment Co. leaf spring centering device.

Standard Railway Equipment Co. model "75" removable gondola roof.



Symington Wayne XL-70 truck.

Brandon stake pocket chain anchor system.

An interesting new development comes from the Kansas City firm of A. Reich & Sons. It is a nylon meat hook for use in shipping hanging meat. Called the Clip-Lok, it is reported by users that the nylon clip causes no discoloration and affords weight and cost advantages over metal hooks. The clips weigh only one ounce, compared to 48 ounces for a metal hook. With standard reefer trailers equipped with 250 clips, weight is an important consideration.

● **Draft gear.** Waugh Equipment Co. has introduced its Full Action Type 650 friction-rubber draft gear which it says is "deliberately engineered to exceed all requirements." While the device looks like the 700 unit Waugh introduced in 1958, the 650's travel has been increased to 3¼ inches, with uniform action through to closure.

The 650 is, says Waugh, impervious

to the effects of temperature extremes. Waughmat urethane springs efficiently at 40 degrees below zero.

● **High-speed truck.** Symington Wayne has introduced a new type "XL" 70 high-speed truck. Based upon the "XL" 50-ton truck design introduced in 1946, the manufacturer describes the new truck as having separate journal boxes, coil springs at journal boxes and friction elements at each journal box "for preventing harmonic action of the load springs."

The XL-70 provides for lateral freedom at the journal boxes, long travel on low rate springs which have about 35% reserve travel at loaded height, and the springs are also used to provide positive centering force for the journal box in the lateral direction. The truck also is said to have both rotational freedom, controlled lateral freedom and positive squareness.

● **Refrigeration system.** A new refrigeration system for reefers has been introduced by the Linde Division of Union Carbide. Called "Polarstream," the system uses liquid nitrogen spray to refrigerate perishables.

Under development since 1940, the technique has been tested on five Santa Fe reefers, 15 Pacific Fruit Express reefers and a fleet of Denver & Rio Grande Western reefer trailers, as well as in 3,200 trucks. The reduction of oxygen in the units so-equipped is reported to have value in retardation of decay in perishables.

● **Tie-down system.** A heavy-duty Brandon tie-down system recently introduced after more than a year of use by the Koehring Co., of Milwaukee, Wis., provides adjustable tie downs for heavy industrial equipment. Winches are longitudinally adjustable every three inches in channels attached to the car underframe. For lateral securement, chain assemblies incorporating stake pocket anchors, cushion chain shock absorbers and heavy-duty turnbuckles with gravity locks are provided. The chain assemblies can be positioned in stake pockets to accommodate the lading.

Says R. C. Schulz, traffic manager for the Koehring Company: "We've used the system for a total of about 32 loads. Over our year-and-a-half experience with the system, we estimate that our loading time averages a tenth of the time used for loading a car with conventional blocking and cable techniques. Savings in dunnage and loading time vary from $100 to $200 per loading. Our customers are saving from $100 to $500 in unloading costs by using the Brandon system. We've experienced no damage to lading in the year-and-a-half we've used the system."

LOSS AND DAMAGE—TRAFFIC POLL

Industrial traffic men

Is your current experience with loss and damage better or worse than it has been in recent years?

Better *65.6%*
Worse *16.4%*
The same *18.0%*

L&D-prevention work evidently began to take hold in dramatic fashion last year. Shippers gave an emphatic indication of better L&D performance in response to Railway Age's March Traffic Poll.

● **Good news everywhere.** Bouquets were tossed at everybody in sight. Rail managements, workers, L&D-prevention forces, equipment manufacturers and their own loading forces were lauded by respondents to the poll.

Several of the respondents who reported their L&D situation was the same as it had been in the past modified their answers by saying they were getting better results from certain kinds of equipment—notably, cars equipped with cushion underframes.

The traffic managers who said the L&D situation had gotten worse cited a wide variety of causes for the deterioration of transportation quality—causes that reflect the magnitude of the task still facing industry L&D-prevention officers.

Robert C. Dallow, administrative traffic manager, National Distillers & Chemical Corp., New York, attributes his "better" vote to: "Concentrated educational programs extending from shipping docks to complete follow-up with carriers to obtain accurate, comprehensive reports from destinations, the use of impact recorders and as much specialized equipment as the carriers can furnish. Cushion underframe cars reduce impact effects on merchandise, DF, LD and compartmentizer cars properly employed dissipate excessive shocks.

Dallow offers this advice for even more improvement: "More widespread destinations reports are essential to permit carriers to evaluate not only total damage but contributory causes—to assure consignees they are interested in delivering loads with a minimum of damage."

● **TOFC helps.** Frank E. Juranek, general traffic manager, Clark Equipment Co., Battle Creek, Mich., says his current L&D situation is better because "cars are equipped with cushioning devices and with chains to secure lading on flat cars. A greater percentage of TOFC moves has also contributed to reducing L&D. Some schedule improvements have also shortened transit time."

A. O. Smith's director of transportation, R. H. Heilman, says his L&D experience is better because of car cushioning and load-restraining devices. "We are using more specialized equipment today than we were a few years ago. Except for certain isolated cases, the results have been quite satisfactory."

E. J. Hobold, traffic manager for Trailmobile at Cincinnati, says better packaging is the reason for his improved L&D performance.

● **Cooperation pays off.** Avery M. Cloninger, director of transportation for Great Northern Paper Co., in New York, says his improved L&D picture comes from "Working *with* rail carriers —especially the 'Spearhead' program of the Bangor & Aroostook. Unlike Mark Twain's observation about the weather, we are doing some big things about the L&D problem."

Floyd Adams, traffic manager for Olin Mathieson at West Monroe, La., attributes his improvement in L&D performance to better equipment, as does M. D. McHugh, GTM, Pine Oil Co., at Palatine, Ill. McHugh says DF cars and cushioned underframes cause "less damage to case goods." W. N. Inman, AGTM, Firestone Tire and Rubber Co., Akron, O., says, "Use of DF cars has been of great help in transporting some type of goods and also of real assistance on stop-off loads."

H. H. Kohn, TM, Linwood Stone Products Co., Davenport, Ia., says larger covered hoppers help facilitate loading with less care.

● **Machinery damage down.** R. W. Harrell, TM of the West Point Manufacturing Co., notes that cars with cushion underframes have prevented damage on shipments of textile machinery. C. A. Moultis, TM for the U.S. Pipe

cite gains in the anti-L&D war

and Foundry Co., at Birmingham, Ala., says his improved L&D situation is based upon more cushion-underframe bulkhead flat cars, and the use of TOFC. "All cushion-type devices on these cars are doing an excellent job in absorbing shock and avoiding damage."

Paul F. Haworth, TM for the Fred Rueping Leather Co., Fond du Lac, Wis., attributes his L&D improvement to "better switching in classification yards and the use of DF cars and cushioned underframe cars."

Joseph L. Miller, GTM, Birdsboro Corp., Birdsboro Penn., says his L&D improvement is due to "our continuous extreme care in loading and the cooperation of railroad inspectors." R. J. Tyler, director of traffic of Tube Turns, Division of Chemetron Corp., Louisville, Ky., says his L&D betterment has been achieved through "greater use of DF cars." J. W. Cassell, district traffic manager, Reynolds Metals Co., Sheffield, Ala., says cushioned underframe cars are behind his L&D improvement. Also, "We brace freight to withstand about 8- to 10-mph impacts."

● **Education plays a role.** Charles Phillips, traffic administration manager, Mueller Bros. Co., Port Huron, Mich., attributes his improving L&D picture to "intensified loader and loader foremen's education in stowing and blocking of lading. Our use of dunnage-free, DF equipment coupled with practical application of educated loading manpower is the combination responsible for retarding our L&D ratio."

C. L. Wornson, TM, Mason City Brick & Tile Co., Mason City, Ia., notes his L&D improvement comes from DF equipment, better loading and use of inflatable dunnage.

W. J. Edmonds, director of traffic, Granite City Steel Co., Granite City, Ill., attributes his L&D betterment to "Hydra-cushion cars, which have contributed much to the safe transportation of our products.'

Cecil P. Newson, vice president-transportation, Burrus Mills, Inc., Dallas, attributes betterment to "use of 'trough-hatch' covered hoppers and Air Slide covered hoppers for flour. Newson notes that all is not rosy: "Shipments in box cars continue to have heavy losses due to poor car condition.'

H. B. Brown, GTM for Mobil Oil Co., New York, says L&D improvement came because of "railroad cooperation in supplying DF cars and the dissemination of circulars describing suggested loading patterns." J. J. D'Arcy, GTM for Congoleum Nairn, Inc., is also enthusiastic about DF cars: "We are staunch rooters for DF equipment." P. S. Berst, TM at Continental Rubber Works, Erie, Pa., attributes his L&D betterment to better equipment and to the fact that "cars are in a better state of repair."

E. N. Roberts, GTM, Westinghouse Air Brake, Pittsburgh, attributes his L&D improvement to better handling and "greater availability of DF equipment and new flats." Oliver Plymate, TM, Butler Welsh Grain Co., Omaha, says, "All around better equipment, cars, grain doors, etc., and more care to details have helped."

Research policies helped

J. Robert Morton, director-transportation and traffic, Combustion Engineering, Inc., Windsor, Conn., says L&D betterment came from "research policies of rail carriers. The new loading methods we are employing, the willingness of railroads to cooperate and help in new methods, new retarder yards, realignment of lines, use of cushion underframe cars, bulkhead flats, TTX cars—and the general adapting of rail equipment to products rather than products to equipment," have helped L&D come down.

J. Vavruska, manager of claims for Swift & Co., Chicago, notes an L&D betterment because of "better equipment plus improvement in handling cars."

C. M. Dunn, Jr., manager-traffic department, Peden Iron & Steel Co., Houston, ascribes reduction of claims from 63 in 1964 to 57 in 1965 to new DF loaders. Dunn thinks there may be too much emphasis on specialized equipment—to the neglect of standard cars.

R. G. Scearce, TM, Diamond Fruit Growers, Hood River, Ore., attributes his claim reduction to better equipment and careful loading practices, as does W. E. Maley, director of distribution for U.S. Borax and Chemical Corp., Los Angeles.

● **The stand-off view.** Both J. P. Taboika, GTM, Cowles Chemical Co., Cleveland, and A. Sarkis, TM, Crucible Steel, Pittsburgh, report L&D is the same as it has been—but that they have been getting good results from cushion-underframe cars. A Trenton, N.J., director of purchases, who reported the same L&D performance, attributes it to "Carelessness. Poor handling. Railroad educational programs leave much to be desired." He also thinks claims should be paid on the value to consignee of the loss.

Warren G. Ege, manager, traffic-agricultural group, Archer Daniels Midland Co., Minneapolis, says, "We are well aware of the strides railroads are trying to make, but it is our belief that not enough emphasis has been given to Class A grain box cars."

Richard J. Pelika, manager of transportation, Cedar Rapids, Ia., Chamber of Commerce writes, "Our members state L&D is due to lack of interest by rail employees."

● **The 'worse' votes.** The shippers who reported their L&D was worse cited a wide variety of reasons.

M. B. Rodbell, TM, National Industries, Inc., Odenton, Mo., bluntly attributed the situation to "poor personnel, poor management." W. W. Coggins, Peavy Co. Flour Mills, Dallas, puts the blame on "deteriorating box cars" and says carriers are not installing enough new cars and not upgrading enough old cars. E. M. Burk, TM for Wyatt Industries, Inc., Houston, says careless terminal handling has worsened his L&D record: "I believe it is simply carelessness and indifference primarily on the part of labor."

● **Rough handling cited.** Ralph L. Andreas, manager of traffic, American Oil Co., Chicago, says rough handling is responsible for his firm's "worse" vote for L&D. H. C. Clune, manager of claims for International Milling Co., Minneapolis, Minn., says "The age of equipment and condition of the cars furnished for loading" are responsible for his firm's worsening L&D picture.

R. A. Propf, GTM, Geo. A. Hormel & Co., Austin, Minn., says, "Lack of satisfactory equipment and handling" make his L&D situation worse. "Damage experience on shipments of canned goods is alarming. Increased minimums and shipments at 75,000-pound and 100,000-pound levels should only move in cushion-underframe cars. But not enough are available. We further feel that high rail traffic volume is causing

more rough handling at terminals."

W. B. Knorst, GTM, IMC, Skokie, Ill., says heavier loads, more derailments and bad box cars for bulk materials contributed to the deterioration of his firm's L&D ratios.

J. Hanson, traffic director for the Grand Forks, N. D., Chamber of Commerce, says his members report unfavorably because of "poor equipment and the need for better protective service in cold weather."

● **Clean cars wanted.** R. R. Rabon, TM, Campbell Taggart Associated Bakeries, Inc., Dallas, reports a sharp upswing in L&D because of equipment infestation. "Vermin-infested box cars resulted in our rejection of flour shipments in bags in 1965 totaling $39,528.15 and flour claims due to damage in 1965 in the amount of $9,658.39. This compares with 1964 infestation claims of $16,782.34 and damage of $16,588.87. Between 1956 and 1965, rejected flour shipments because of infested cars ranged from a low of $9,505.06 to $43,854.94.

"If the railroads would clean their cars and fumigate them prior to offering them to flour mills for loading, they would certainly cut their L&D and also eliminate a lot of inconvenience to consignees and the time and trouble of processing claims and disposition of salvage.

David Wines, transportation coordinator for the Brunswick Corp., Chicago, attributes a rise in L&D to carrier mishandling and unsuitable equipment. "In my opinion, there is lack of proper supervision at terminals and docks."

LOSS AND DAMAGE

Progress on the perishables front

Purdue conference on handling perishable agricultural commodities offers forum for wide variety of views on L&D problems.

L&D-prevention men attending the 20th annual conference on handling perishable agricultural commodities at Purdue University March 14-17 grappled with a wide variety of problems inherent in the distribution of the nation's agricultural products.

● **Scientists discuss new device.** A presentation made to the conference by J. K. Stewart and John M. Harvey, (horticulturalist and investigation leader, respectively, of the Agricultural Research Division of the U. S. Department of Agriculture), summed up observed comparisons of lettuce shipped to markets in equipment with liquid nitrogen refrigeration and in mechanically-refrigerated equipment.

"Decay was significantly greater in lettuce from the trailers in which liquid nitrogen was the only refrigeration than in the trailers that were mechanically refrigerated. Since decay is such a serious factor in marketability of lettuce, the high incidence of this disorder in lettuce shipped in nitrogen-refrigerated equipment presents a problem yet to be solved. Some modifications in nitrogen trailers are being tested which may improve temperature uniformity and provide lower average load temperatures needed to maintain quality."

● **Other techniques.** A wide variety of USDA tests aimed at controlling decay in perishables was reported by A. Lloyd Ryall, of USDA's Market Quality Division.

"Despite publicity about the wonders of preservation by application of gamma or beta radiation for control of decay in fresh fruits and vegetables, there is as yet no commercial application. Beta rays have insufficient penetrating power, so gamma radiation, which does penetrate tissues, offers more promise for the control of incipient infections. Research to date indicates promise for only a few fresh fruits or vegetables. Doses of 150 to 250 kilorads reduce decay in strawberries and some varieties of peaches, nectarines and figs without apparent product damage. Many other fruits and vegetables tested at these dosages were injured in texture, flavor or ripening response."

Ryall also gave the conference a report on heat-treatment via infrared radiation for a number of commodities. He said such treatment and "pasteurization" with saturated hot air appears promising for berries and figs. He also described chemical coatings for packaging materials used around lemons, oranges and grapefruit. The chemicals vaporize gradually and prevent decay and soilage by limiting fungus growth and inhibiting surface sporulation of blue and green molds.

● **Rule changes wanted.** C. E. Menckel, superintendent transportation, American Refrigerator Transit Co., told the conference that two rules of the National Perishable Freight Committee (rules 712 and 711) "place an unreasonable burden on railroad operating personnel, create extreme claim liability and should be eliminated."

Rule 712 provides for precooling of commodities at origin at charge of $10 to shipper per 12-hour period prior to release of shipment to carrier. The rule also permits additional cooling at all stop points to finish loading, partially unload and transload.

"Due to recent reductions in station forces, some railroads don't discontinue unit operations before release, relying on inspection forces at next inspection or interchange station to stop the unit," said Menckel. "In many instances inspection station forces do not see waybill and assume shipment is moving under a rule requiring continuous operation. There is considerable hazard that the thermostat may not have been checked by the origin agent with the result that continuous operation may cause temperature damage to commodities."

Rule 711, said Menckel, is a companion rule which compounds the evasion of full user charges otherwise applicable in Rule 705 (frozen) and Rule 710 (non-frozen).

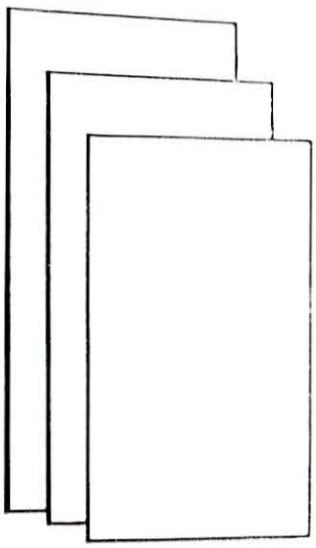
● **Rule 711 is inequitable.** Says Menckel: "Rule 711 placed considerable claim risk against the railroads at reduced—or, frequently, no charge—to shippers. No charge is assessed unless car temperature at inspection points requires starting of unit. Since this rule was made applicable to fresh meat shipments recently, records indicate several packers made trial shipments during winter months, with heavy losses. Evidently, little consideration was given to the fact that residual body heat in meat in a highly insulated car results in car air temperatures rising considerably. Cheese and butter shippers have been highly successful in avoiding Rule 710 charges through use of Rules 712 and 711 throughout the

(Continued on page 79)

TEMPERATURE CONTROL PANELS
by Molded Fiber Glass Body Co.

for TRUCKS • TRAILERS • BOXCARS • CONTAINERS

MFG SHEET



3 standard sizes

36" x 72"
56" x 96"
48" x 144"

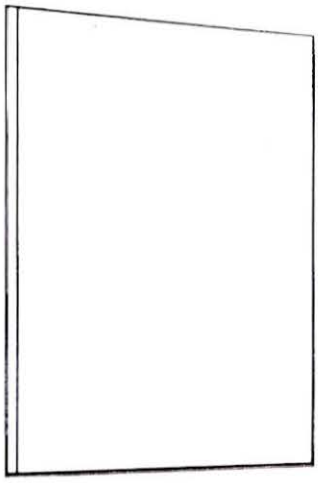
Sheared to size.

Thickness:

.125"
.093"
.075"
.062"

REEFER WHITE
or Color

MFG FLAT LAP JOINT PANEL



49¼" to maximum length of 120"
1¼" lap joint

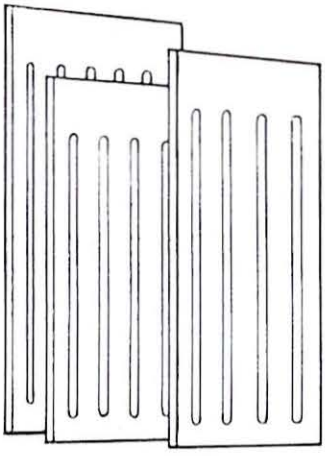
Sheared to size.

Thickness:

.125"
.093"

REEFER WHITE
or Color

MFG LINER PANELS



#525
49¼" x 84", 88", 96"
8" centers
76" rib

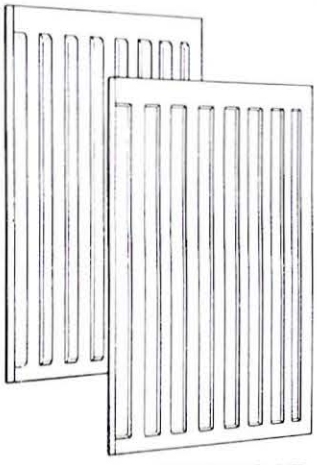
#492
49¼" x 84"
8" centers
72" rib

#518
49¼" x 82", 88", 96"
9" centers
78" rib

All have 1¼" lap

REEFER WHITE
Cut to your specifications.

MFG MAXIMUM AIR FLOW LINER PANELS



Lengths:
88¾" to 92¾"—available

Widths:
37¼"; 47¼"; 49¼"—available

Thickness:
.120 Class 1-G Gel Cote Prime Finish—available

.100 Class 1 Standard Finish—available

Panels in excess of 92¾" long, as described above, can be produced to a maximum rib length of 116" and a maximum overall length of 118". These panel prices depend upon length and volume.

REEFER WHITE

STANDING RIB—INVERTED RIB
Panels to your specifications.

All MFG Sheet and Panels produced in Matched Metal dies under heat and pressure. They are:

Unaffected by Temperature Extremes: (precool to steam-clean)

Impact Resistant (MFG has more shock resistance than steel.)

Corrosion & Moisture Resistant. (No rust, stains, etc. Quick and easy to clean.)

Not a Thermal Conductor. (Has excellent insulating qualities.)

Easily Installed. (Can be sawed, drilled, punched, etc.)

REDUCE WEIGHT • CUT MAINTENANCE COSTS • INCREASE PAY LOAD

You can use the advantages of MFG. Write:

Molded Fiber Glass
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TRANSPORTATION DIVISION

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Circle 38 on reader service card

Circle 39 on reader service card ►

durable aluminum

Hopper cars are built of Dow aluminum. Why not rolling pipelines?

Nobody's asked us yet.

When somebody does, we'll work on it. The continuously circulating unit train is one of the exciting new railroad ideas. And that's just the kind we like to get involved with.

We've already done some pretty exciting things. Like designing and making an aluminum center sill for the new, all-aluminum rapid transit cars being built for the Port Of New York Authority's Trans-Hudson "PATH" system. The sill weighs only 1,785 pounds—about half the weight of a similar section made of steel.

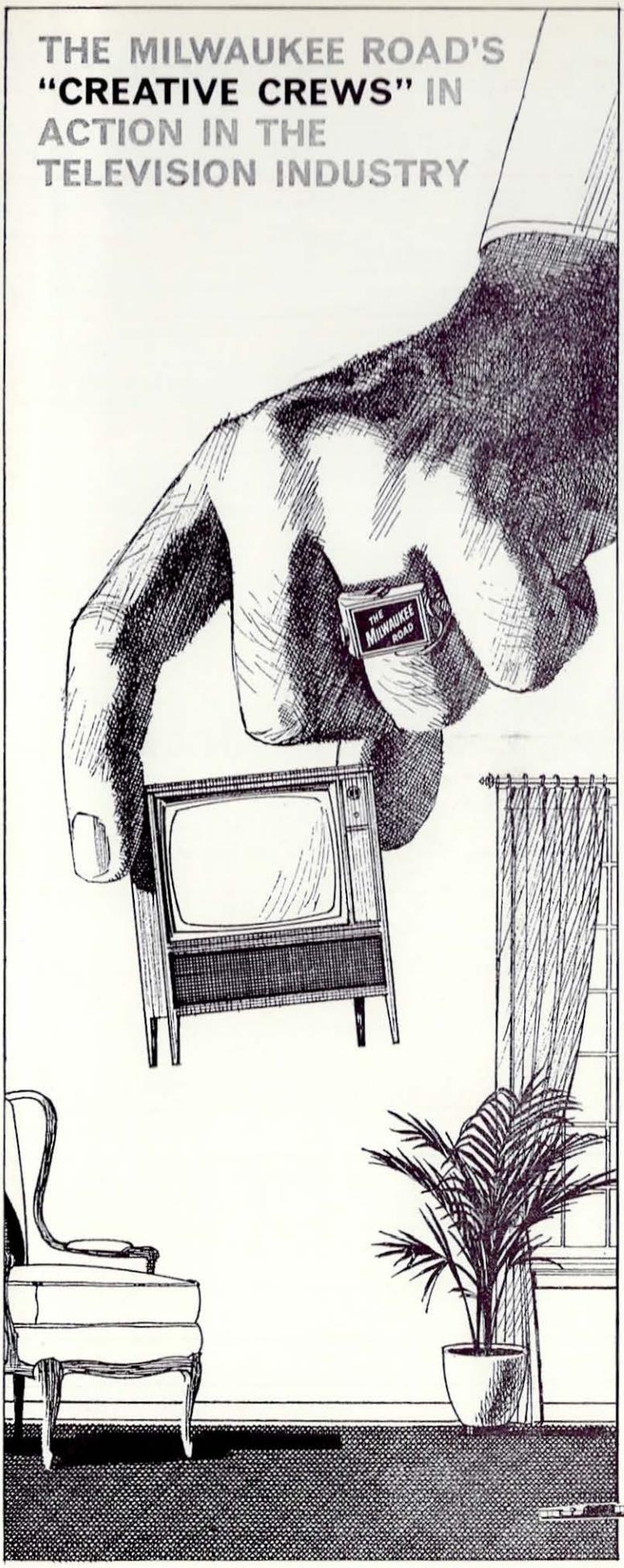
Solving special problems and working on new concepts are our strong suits. We can't claim to be the biggest, but we're as versatile and inventive as anybody in the business. Maybe more so. So next time you have a big railroad opportunity, why not ask us? At the beginning, when we can do the most good.

Metal Products Department, The Dow Chemical Company, Midland, Michigan 48640.

DOW

3

THE MILWAUKEE ROAD'S
"CREATIVE CREWS" IN
ACTION IN THE
TELEVISION INDUSTRY



GETTING THE PERFECT PICTURE INTO YOUR LIVING ROOM

Bringing American homes better TV entertainment through better TV equipment is the daily objective of manufacturers. This calls for imaginative engineering and exacting production skills. But just one hard jolt in transit can severely damage the delicate mechanism of the TV set that may someday be in your home.

Here, our "Creative Crews" make the difference. They do their part to make sure *you* get the picture. With a typical creative approach, they have eliminated many of the problems of damage and delay that have plagued shippers of delicate appliances such as TV's and radios.

They've done it with more and better freight cars, special device cars and additional cars specially rebuilt for increased carrying capacity. They've done it with new rail-yard handling techniques that are faster, yet gentler than ever before.

Our "Creative Crews" have helped TV and radio retailers, too. From Chicago to the Pacific Northwest in 55½ hours, The Milwaukee Road's XL-Special fast freight service helps reduce dealer inventories. Service to Omaha, Kansas City and St. Paul-Minneapolis is equally fast.

It's this creative combination of better equipment, better handling and faster service that is winning increased TV and radio business for The Milwaukee Road. Increased business from *every* major American industry, as a matter of fact.

"Creative Crews"

a distinctive idea in railroading

A dynamic creative way of doing things is the service philosophy of the entire Milwaukee Road. It's an attitude toward transportation problems that breaks with tradition and pioneers new ideas. It's inspired by a forward-looking management outlook that is making The Milwaukee Road America's resourceful railroad... the railroad of "Creative Crews". The Milwaukee Road, Union Station Building, Chicago, Ill. 60606

The railroad of "Creative Crews"

SERVING 14 STATES

Circle 10 on reader service card

Meeting on perishables

(Continued from page 74)

year because of the density of the commodities and because butter and cheese are thoroughly cooled in storage rooms prior to loading.

"Nevertheless, the railroads risk claim liability in the event of transit delay and extreme outside temperatures en route, if yard forces fail to follow billing instructions under Rule 711 to start unit if car temperature rises above or falls below the limits set by the shipper. With most railroads reducing yard forces substantially, this feature needs watching in the interest of claim-prevention.

"While information on the use of these modified rules on shipments of pears and apples is not available, the perishable nature of those commodities indicates substantial operating supervision is essential to minimize claim risk."

● **Shipping to Canada.** Eric A. Eardley, director of the fruit and vegetable division, production and marketing branch of the Canada Department of Agriculture, gave some good pointers to the men at the conference. He reminded the L&D-prevention specialists that fruits and vegetable, for the most part, are shipped to Canada during the seasons when commodities are most susceptible to freezing.

He said only heavily insulated cars with perfectly fitting doors should be used. "You would be surprised to see how much doorway freezing can result from a door that does not quite fit perfectly."

Another cause of trouble described by Eardley involves cars with steel floors. "When loaded in California, Texas or Florida, such a car may appear quite acceptable but, unless well-protected with straw, it can spell trouble if shipped to Canada during mid-winter."

Eardley asked members of the conference a question that has intrigued L&D-prevention men from time to time. "Having at one time or another worked in four receiving centers in Canada, I could not help noticing that some receivers very rarely have a claim while other receivers are always making claims. Yet, the rates are the same to all. As anticipated claims are built-into the freight rates, it seems the former shippers are subsidizing the railways for the latter shippers. Has any consideration ever been given to something like the 'good driver' premiums available from automobile insurance companies?" ■

R. G. LEWIS

AS THE PUBLISHER SEES IT...

PRESERVING THE RAILWAY PLANT—At an RPI Industry Outlook Conference last November, Howard C. Morton, partner in the firm of McMaster, Hutchinson & Co., expressed an unusual view about the size of the U.S. railway plant. "The railroads are not necessarily over-built," he said, "but it is the capacity of the track which has been increased so tremendously by adequate signaling, CTC, unit trains, higher horsepower diesels and larger freight cars all contributing to a greater efficiency."

HCM went on to point out that data processing equipment and computers enable the industry to use its plant and equipment to a degree not thought possible only a few years ago. Personally, I hate to see any shrinkage of the railroad plant, except in areas where there are parallel and, hence, wasteful facilities. In fact, I would like to see service extended into new areas, particularly those susceptible to industrial growth. Luckily, this can now be accomplished to some degree by TOFC, which permits railroads to reach into areas peripheral to their rail networks. The goal ought to be to achieve more intensive utilization of facilities by increasing traffic, rather than by any constriction of the arteries which provide circulation to the greatest possible number of communities.

NO CONVENIENCE OR NECESSITY—A recent application of the Reading for abandonment of its Little Round Top branch exemplifies the kind of abandonment that will enable railroads to trim their plant without affecting its yield. This half-mile extension of its Gettysburg, Pa., branch has no industries on it and no trains have operated over it for two years (even its name sounds unimportant). So far as I can determine, it was last used for excursion trains to the battlefield. While I can't confirm it, I believe the branch played an active role in the War Between the States.

Another recent case in the apparently hopeless category is that of the Maine Central, which would abandon about nine miles of branch between Hartland and Harmony, Me., on which less than one freight car a day moved in 1965. MeC realistically pleads that continued operation of this track imposes "an unjust and unreasonable burden" on patrons served by the remainder of the railroad system.

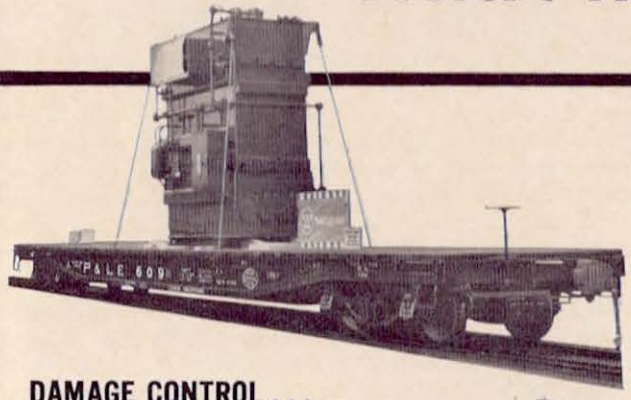
CONCRETE TIES FOR 31½ MILES—Franklin B. Bartholow, a director of the Norfolk Southern, writes to express surprise that our Feb. 14 story on concrete ties failed to mention "the longest application of such ties." He reminds us that a new NS line from Phosphate Junction, N.C., to Aurora and Lee Creek includes about 70,000 concrete ties on 31½ miles of main line and sidings. FBB points out that a recent letter to NS stockholders states, "We expect that this segment will be the finest railroad line in the country when the track is completely finished."

LEADING SPOKESMAN FOR URBAN TRANSIT—That is the way we described Railway Age in a recent circulation letter, but we have been challenged. J. F. Warren, vice president of Teletrans Corp., says we are "falling behind on transit development." He sends along a reprint from Steel magazine describing Teletrans' novel transit system—cars that would be propelled along an electromagnetic track housed in an overhead tube. Detroit is said to be considering the system, the first mile of which could be constructed and put into operation for about $3 million.

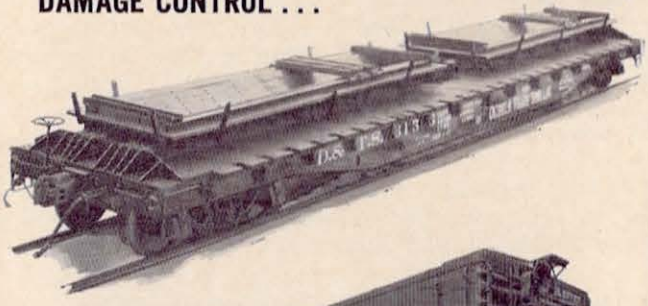
While we might have qualified our claim and said we are leading spokesman for *rail* urban transit, we are not overlooking alternate systems. We were among the first to report in any depth on the Levacar system (RA, Oct. 12, 1959, p. 30), and have reported current progress on the Westinghouse Skybus. We will watch Teletrans' developments closely, too.

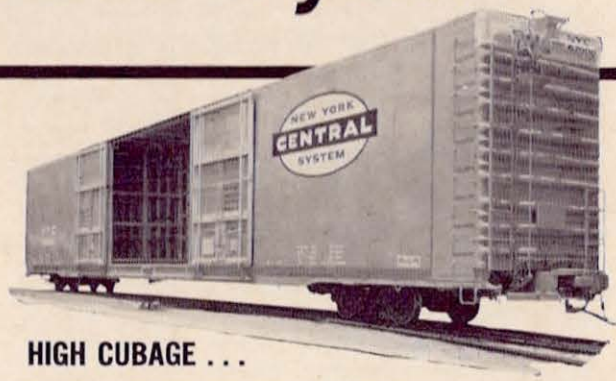
Some cars do the job better than others. The increase in utilization and efficiency

What interests you?



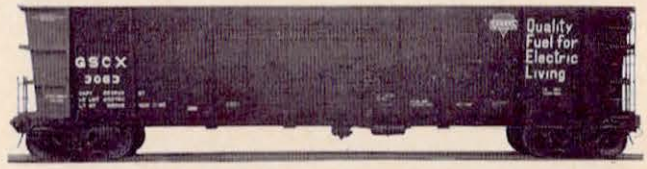
DAMAGE CONTROL . . .

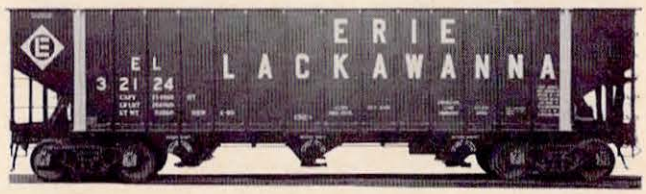




HIGH CUBAGE . . .

UNIT TRAINS . . .

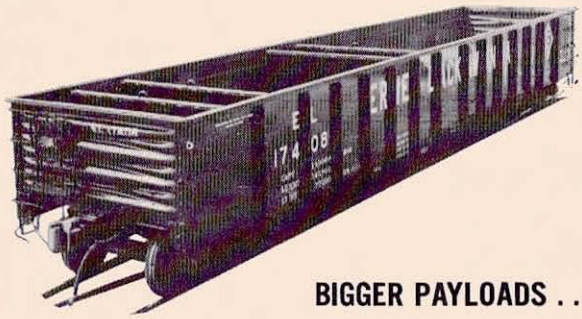




can make a big difference.

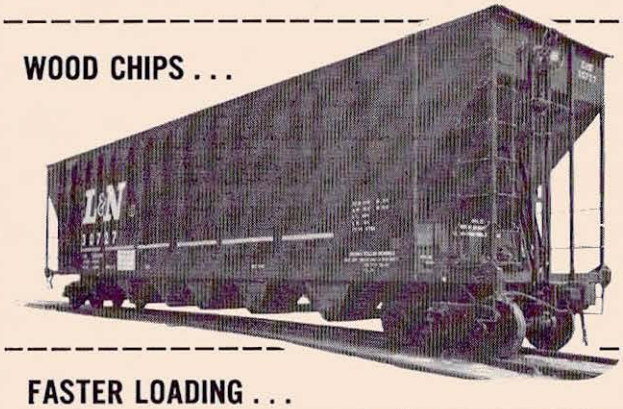
HIGH DENSITY . . .

TENELON . . .

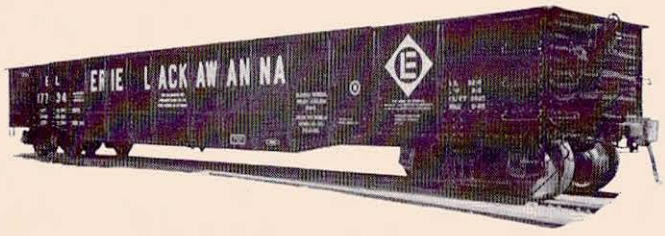


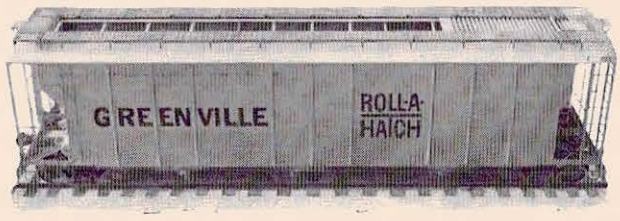
BIGGER PAYLOADS . . .

WOOD CHIPS . . .



FASTER LOADING . . .





All of these cars rolled off the big Greenville lines during the past year. They represent the rare combination of versatile car designs and production skills which make Greenville an uncommonly good place to start in selecting the best car for the job. A car doesn't have to be a special to be efficient. A Greenville modified standard may do the job just as well. What will help you most? Talk to Greenville about it. The answer may already exist.

GREENVILLE

STEEL CAR COMPANY
Subsidiary of Pittsburgh Forgings Company
GREENVILLE, PENNSYLVANIA

Circle 41 on reader service card

WEATHER WAS CLEAR, but it changed later, as GN's LS-2 demonstration lumber train was made up at Everett, Wash.

Lumber packaging pays off

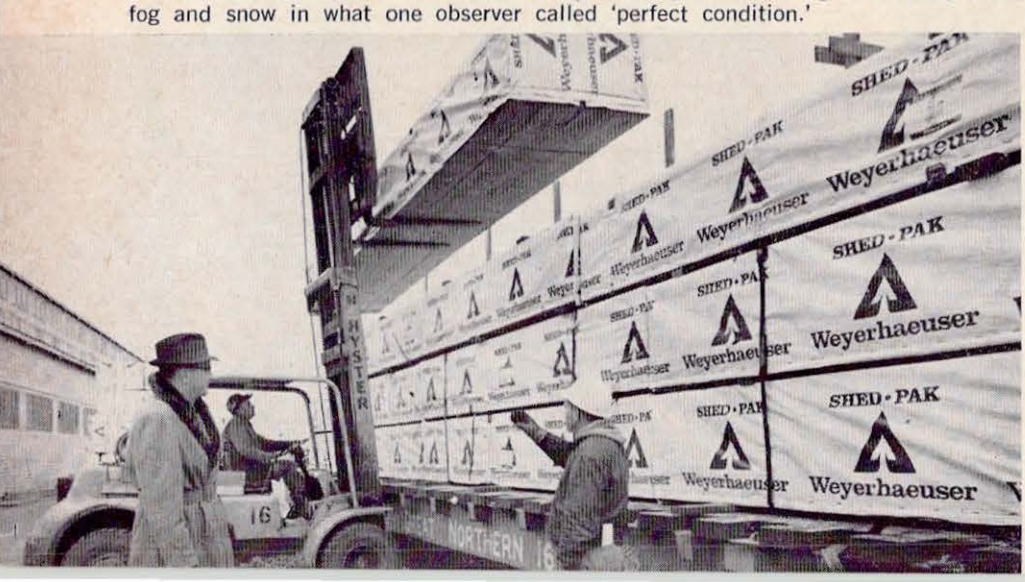
Demonstration run on GN flat cars takes paper-wrapped lading through unexpectedly severe weather conditions and comes through with flying colors. Loading-unloading time was cut sharply.

Nobody could have planned a better, more demanding test than the one given protective packaging for lumber on a special Great Northern "demonstration" train earlier this month.

The packaged lumber—about 6,000 tons of it—was loaded in the Pacific Northwest, moved in two trains to Minot, N.D., classified there and combined into a 134-car train for movement on to Minneapolis-St. Paul. And between Washington and Minnesota, the packaging got a real workout from the elements—rain, sleet, fog and heavy snow.

Inspection at destination indicated that the paper companies which furnished the wrapping and the 22 forest-products producers who provided the loads should be well satisfied with the test results. Said one observer: The wrappings "came through perfectly."

PAPER WRAPPING, and the lumber it protected, came through the rain, sleet, fog and snow in what one observer called 'perfect condition.'



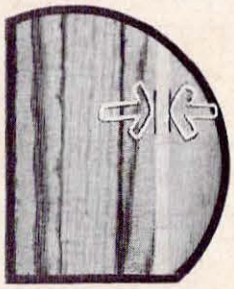
• **Weather 'cooperates' for a test.** Great Northern made up one train, LS-1, at Spokane and the other, LS-2, at Everett, Wash. As the two trains headed toward the Continental Divide, they hit snow storms so severe that plans for photographing the movement had to be abandoned until the trains moved east of the Divide. Original plans called for picture-taking from a helicopter—but the storm made it impossible for the chopper to fly west of the mountain pass.

Both LS-1 and LS-2 were powered by four diesel units, with LS-2 picking

(Continued on page 90)

FRUIT GROWERS EXPRESS CO.

...uses kemPLY® LINER TO PROTECT CARGO



Cross section of ¼" KEMPLY enlarged 3 x's shows relative thickness of surface. Type FG6.

KEMPLY has a thick, hard, impervious surface.

- Holds up under constant impact
- Easily cleaned with steam or detergents
- Does not retain odor of cargo
- Not affected by sub zero temperature
- Installs like conventional plywood
- U. S. D. A. Accepted
- Available white or colored

KEMPLY is not surfaced with a mat, but a closely woven glass fabric. The fibers are imbedded deep in resin, and not close to the surface where they may easily become exposed by abrasion. KEMPLY stops splintered walls from damaging cargo.

KEMPLY is available in thicknesses of ¼", 3/8", ½", 5/8", ¾" and 1"; in standard 4'x 8' panels; and in lengths up to 24 ft.

SPECIFY KEMPLY FOR REEFERS • TRAILERS • CONTAINERS

Send for prices and sample kit No. 24

kemlite

KEMLITE CORPORATION
DEPT. RA
101 N. REPUBLIC AVENUE, JOLIET, ILLINOIS

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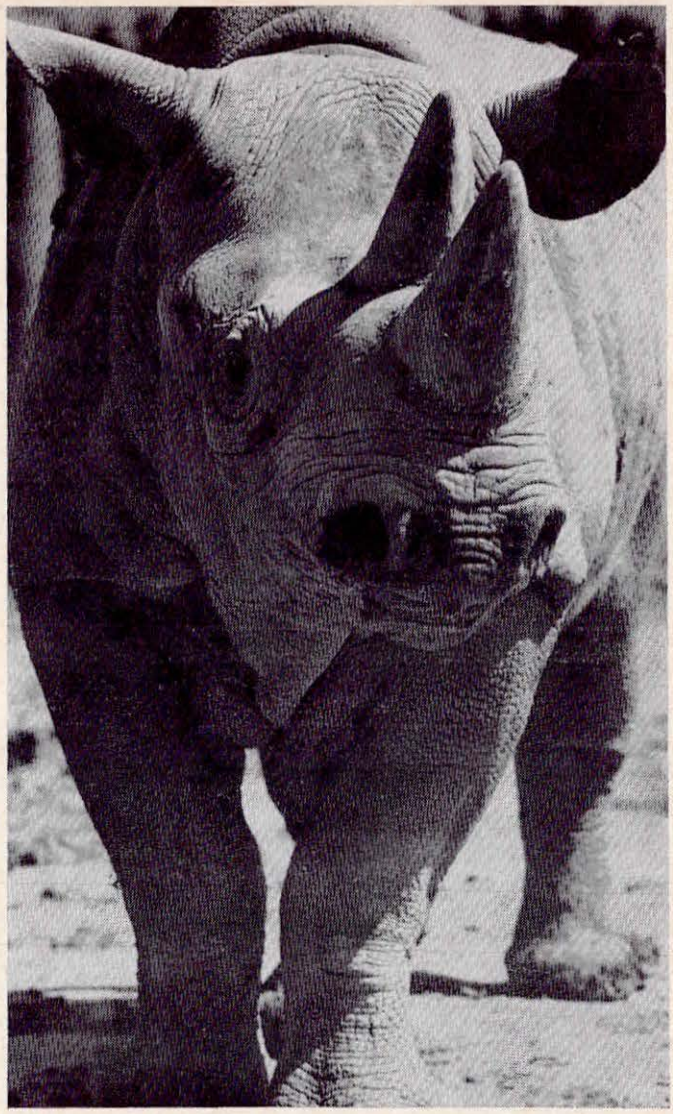

armour your boxcars with Cellon®

Koppers Company's new Cellon treatment gives Alger-Deck boxcar flooring rhinoceros-hide protection against insect attack, dry rot and decay. Alger-Sullivan Company produces Alger-Deck from straight and strong, old growth longleaf yellow pine and then fortifies every cell of the wood with preservatives carried clean through the heart by the new Cellon treatment. With an Alger-Deck floor, your boxcars are food safe, easy to nail and stronger per pound than steel. Get more information on Alger-Deck boxcar flooring and the Cellon treatment of any wood product. Write or call "Bull" Dozier (904) 256-3456 in Century, Florida.

ALGER-DECK

Another outstanding product from Alger-Sullivan Co., Century, Fla.

®Koppers Company, Inc., trademark

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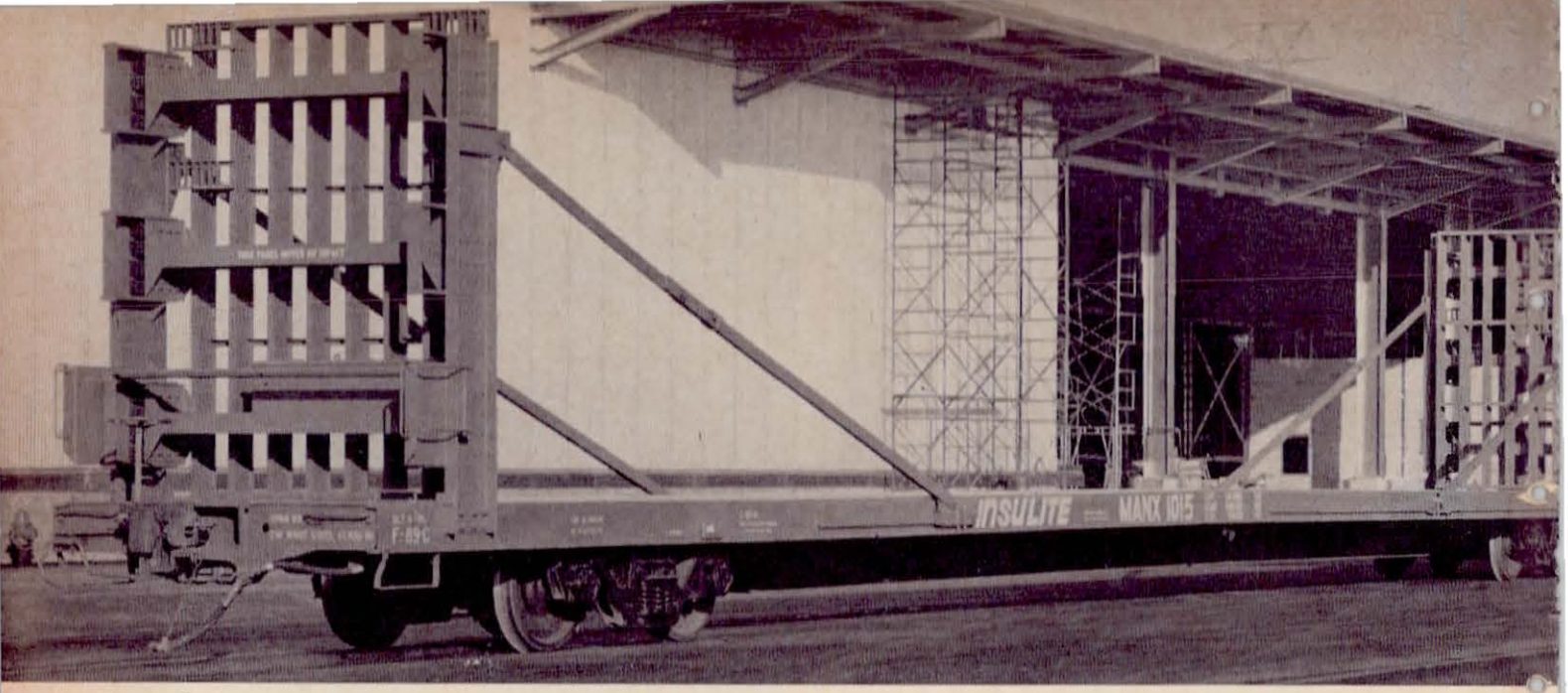
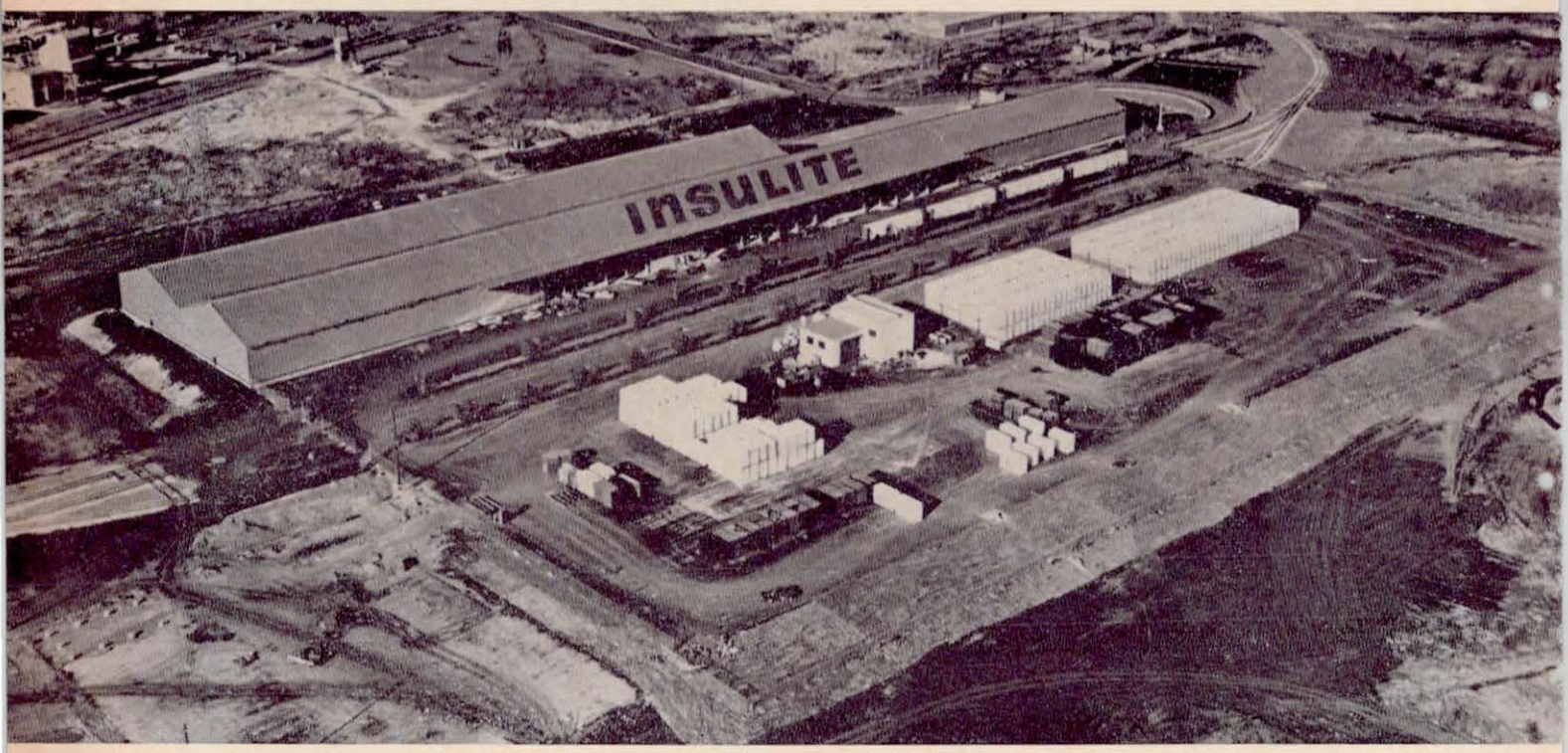


From factory . . . Eight of the 89-foot, 100-ton bulkhead cars, when l oaded, readily qualify for the million-pound freight

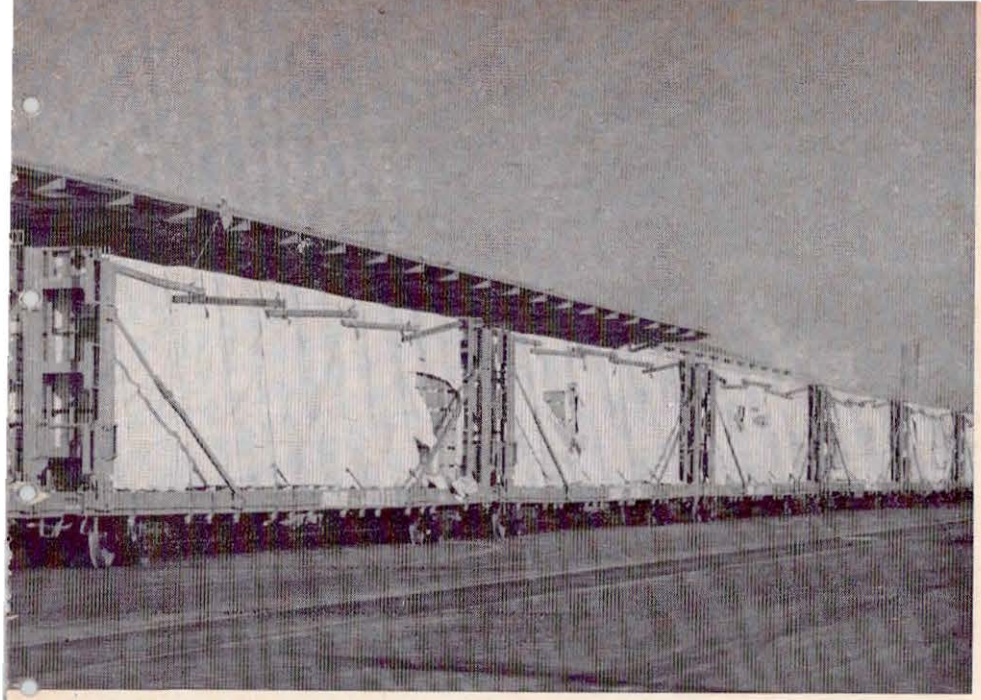


To service center . . . South St. Paul, Minn., is largest of Insulite's distribution points.

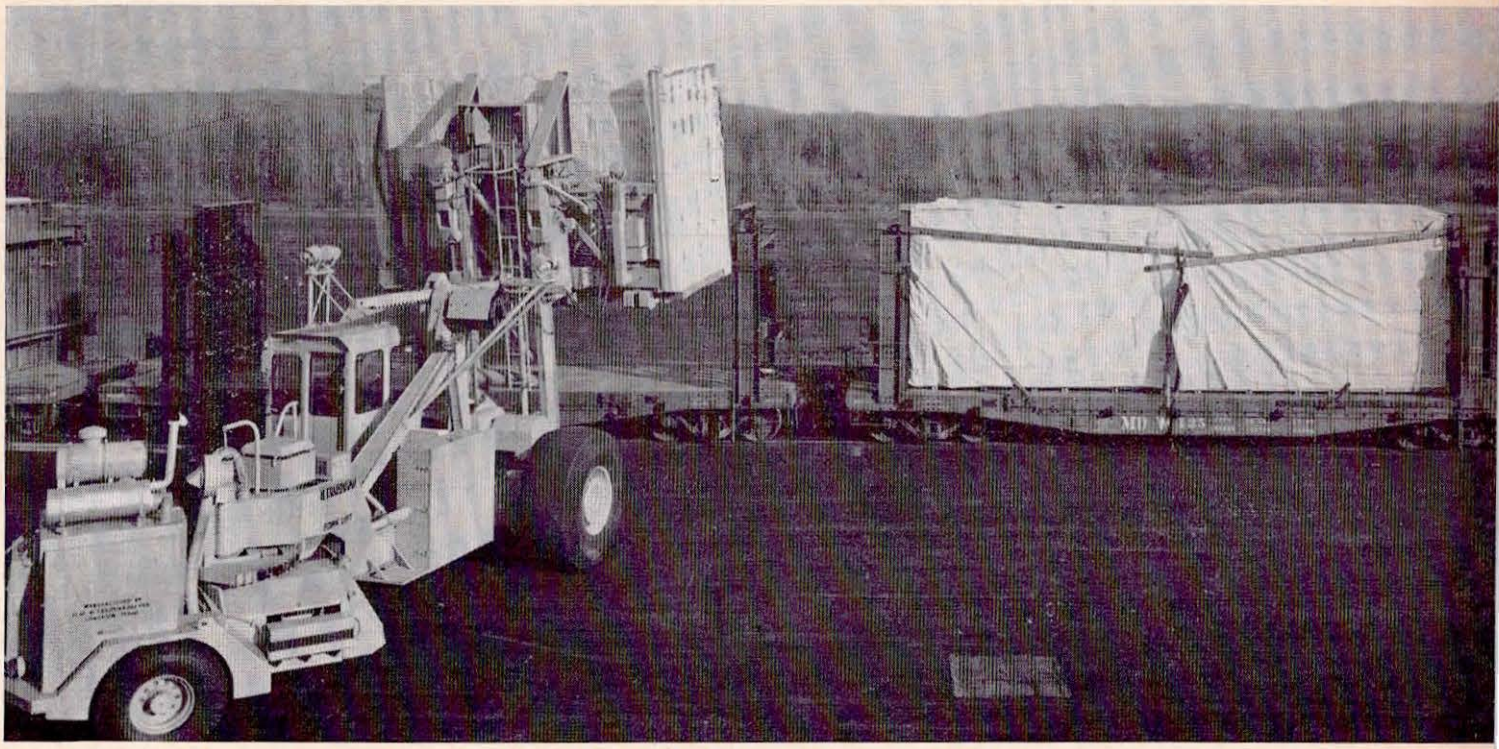
INSULITE'S 'OPERATION SERVICE'

Railroads: Key in new concept

Distribution system for building materials is railroad-oriented. Special cars and carefully directed movements speed products from factory through four service centers to customers.



rate from International Falls, Minn.



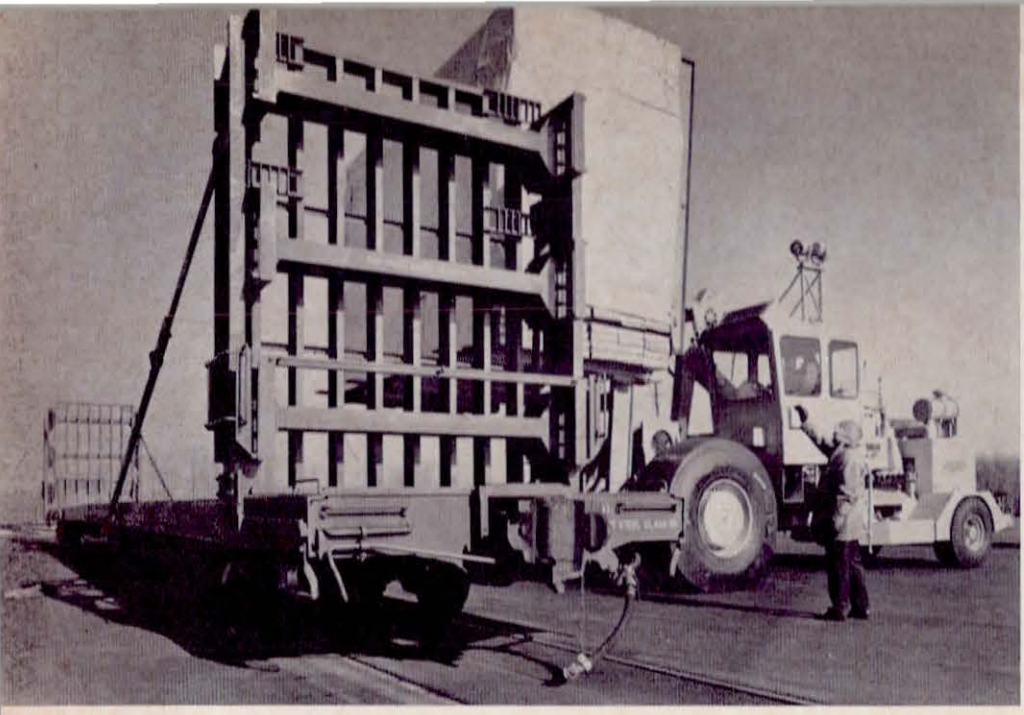
To customer . . . Short 50-ton cars move to wholesalers; mechanized handling is universal.

Precision-tailored rail transportation is the vital link in "Operation Service," a new distribution concept originated by a major manufacturer of building materials to speed deliveries to its wholesaler. When the Insulite Division of Boise Cascade Corp. set out "to bring the factory to the market place," it was immediately obvious to corporate planners that railroads would do almost all of the bringing.

The firm's mill at International Falls, Minn., four new distributing centers, and Insulite wholesalers from coast to coast now rely on a fleet of cushion-bulkhead flat cars, along with careful scheduling and handling, to get Insulite products to customers in minimum time. "Operation Service" which does all this is described by Insulite spokesmen as the largest distribution program of its kind in the building products industry.

● **Four centers.** Insulite's 190 wholesalers extend from Ellsworth, Me., and Jacksonville, Fla., to El Paso, Tex., and Seattle, Wash. To serve them in minimum time, the country is divided into four areas, each with its own strategically located distribution center. The four service centers, themselves located in prime market areas, are the distribution terminals in South St. Paul, Minn., and Woodbridge, N.J., and the fast-freight forwarding facilities at Kansas City, Mo., and Chicago.

Insulite traffic men point out that they have sought to assure consistent service by having each terminal site served by two railroads. At South St. Paul the facility is on the Chicago Great Western and the Rock Island. The Woodbridge terminal is on the Jersey



UNIFORMITY OF SPECIAL CARS permits application of specialized, high-capacity lift trucks which move packaged materials at factory and service centers.

Central and Lehigh Valley. The distribution points of Chicago and Kansas City are served by regularly scheduled meat trains originating at South St. Paul.

● **Million-pound rate.** To take advantage of a million-pound freight rate, which is already producing major economies in the shipment of large quantities of Insulite products from International Falls to the four centers, a fleet of almost 100 89-foot, 100-ton, bulkhead flat cars has been acquired. Another 100 42-foot bulkhead cars have been put into service to move the materials from the distribution centers to wholesalers.

To minimize the number of cars needed to qualify for the million-pound rate, Insulite turned to piggyback-type equipment, settling finally on the standard-deck-height model produced by Pullman-Standard. These cars are normally fitted for hauling 70 tons. The Insulite units were equipped with 100-ton trucks and 33-inch wheels. Eight-car shipments, using these long cars, readily qualify for the special rate.

● **Cushioned bulkheads.** The cars were assembled at the P-S plant in Butler, Pa., and then shipped to the carbuilder's Hammond, Ind., plant for application of the cushioned bulkheads which P-S fabricated there. The bulkhead arrangement was designed for Insulite by Vanguard Engineering. In addition to the lading protection provided by the car's conventional draft gears, it had been decided that above-the-deck cushioning would also be advisable.

Because of differences in the sizes of packages which the cars would be handling, it also became necessary to make one of the bulkheads on each adjustable, with a movement of 16 feet being possible on the 89-foot cars. Slide rails along both side sills secure the bulkhead. Vertical jambs, braced near their tops by diagonal ties, support the main bulkhead structure.

The bulkhead is fabricated from stock structural shapes. It is secured to the jambs by Lord rubber shock mounts which permit approximately 8 inches of travel under maximum impact. The bulkhead goes into action when, under a sudden velocity change such as coupling, the lading impacts the interior panel. Panel movement deforms the Lord mounts; the resiliency in the assembly reduces the force the car must absorb by reducing deceleration of lading and by storing energy in the shock mounts. Vibration caused by subsequent movement of the car, says Vanguard engineers, makes it possible for the shock mounts to push the lading back to its original position.

● **Controlled equipment.** The smaller 42-foot, 50-ton flats are fitted with a lower-capacity version of the cushion bulkhead. The two groups of cars represent an investment in excess of $3 million. What is the return on such an investment?

"By controlling the transportation equipment on which Insulite products move," explains a Division spokesman, "Operation Service can assure service from any railroad. Orders can be sent on their way with no concern about the periodic shortages of railroad-owned cars."

And speeding orders on their way is the goal of the entire program. Products involved in the new distribution system include several types of exterior siding and sheathing, over 20 styles of ceiling tileboard and other ceiling materials, and eight prefinished wood-grain interior wall panels. All are packaged for fork-lift handling. Minimized inventory of standard items and reduced stocking of low-volume, high-profit specialty items are the principal incentives of Operation Service for wholesalers.

Contractors' and builders' orders are converted to code for transmission to the computer at Insulite's Minneapolis headquarters where product availability, weight, route and billing information are immediately determined. Wire links from Minneapolis to the four service centers transmit necessary information so that terminal superintendents can make arrangements for loading of available materials and choosing the equipment on which they will move. Chicago and Kansas City can also arrange to have trucks ready for loading as soon as cars arrive from South St. Paul. Normal procedure is to load a customer's order the second day after placing—the following day if urgent handling is requested.

● **Distribution terminals.** Because South St. Paul serves not only the Twin-Cities trading area but also the Chicago and Kansas City break-bulk points, it is the largest of the new Insulite facilities.

The 960-foot building, with more than 160,000 square feet of indoor storage, is separated from a 250,000-square-foot outdoor storage area by the three-track transfer aisle. Woodbridge has the same general arrangement with slightly smaller storage areas. Handling in these two facilities, as well as in the rail-to-highway facilities at Chicago and Kansas City is done by mechanized equipment. Largest are the 50,000-pound-capacity LeTourneau fork lifts.

"Our distribution program," explains K. G. MacIntosh, Insulite sales manager, "is designed to efficiently supply the demands of today's housing market and to provide our customers with fast and dependable service for years to come." He lists as advantages for Insulite customers the following:

—Speedy shipment through computerized communications;

—Faster delivery from points near the market by Insulite's own fleet of 200 railroad cars and by flatbed trucks;

—Less freight damage because of the shock-absorbing bulkheads and weatherproof packaging;

—Lower handling costs because packages are unitized for fork-lift handling;

—Increased inventory turnover because of immediate availability of the full range of Insulite products. ■

Photograph by Walter Chandoha

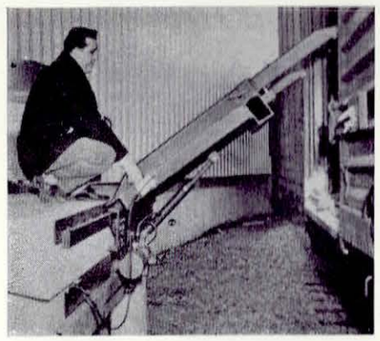
RELIABILITY

The English Setter, it has been said, has two distinct personalities. In the field he's all business—a fast, hard, eager worker—intent only on finding and pointing game for the hunters. At home he is affectionate, playful, and always ready for fun. These qualities have earned for the English Setter the warm regard of sportsmen the world over. Wherever this great breed is found—in the quail cover of Georgia or the pheasant country of the Dakotas, it can always be relied on to deliver the exciting, stylish, and dependable performance sportsmen have come to expect from the English Setter.

RELIABILITY . . "As built" performance after the toughest kinds of yard handling . . . in any weather . . . for mile after grueling mile of long-haul freight movement. That's what reliability means to railroad men. Cars don't earn revenue in the repair shop; when a car is out of service, it's costing someone money.

No wonder, then, that Keystone SHOCK CONTROL Cushioning Systems are the choice of so many shippers and railroad men. Keystone SHOCK CONTROL Cushioning Units have demonstrated their capacity to "take it" . . . to deliver superior cushioning action and maintenance-free service under the most demanding operating conditions. They give you performance you can measure . . . reliability you can depend on. When you think of car and lading protection, think of Keystone SHOCK CONTROL Cushioning Systems. May we send you complete details? Keystone Railway Equipment Co. 310 S. Michigan Ave., Chicago, Illinois 60604

NEW **PRODUCTS** REPORT



Hydraulic Ramp (RA-1)

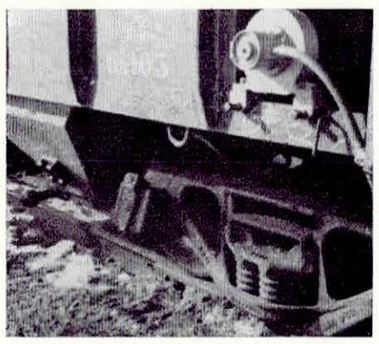
The 20,000-lb-capacity Railramp is said to comply fully with U.S. Department of Commerce standard CS202-56. It is mounted on a special track fastened to face of siding. When not in use, it is "locked" in vertical or up position and can be moved laterally to any point along rail. Ramp will service cars from 12 in. above siding level to 8 in. below, and may be had to accommodate any siding with a track center line of 8 ft 6 in. to 11 ft. *Kelley Co.*

Lift Truck (RA-2)

Paper rolls 60 in. in diameter can be turned 92 in. radially through 8-ft car doors and rotated 180 or 270 deg with the Clarklift C-65 RC 6,500-lb-capacity lift truck. Gas- and LP-gas-powered units are of 10,000-lb counterweight design. Roll clamp adjusts automatically from 10 to 62 in. diameter. Upright types available: 6,500-lb-capacity standard, and HiLo free lift for handling 60- to 154-in.-diameter rolls; 6,000-lb triple-stage for high stacking. *Clark Equipment Co.*

Strapping System (RA-3)

The polypropylene strapping system comprises a 1¼-in. strap dispenser, tensioning tool and buckle-type strap closure for lumber and heavy transport applications and other heavy duty uses for which non-metallic strappings were not recommended previously. The Avistrap polypropylene material weighs 8.6 lb per coil; has a 2,500-lb strap strength; and withstands a breaking energy of 240 in.-lb per in. Wheeled dispenser holds up to four coils of material. *FMC Corp.*



Pneumatic Vibrator (RA-4)

The TMV 4000, 68-lb motor-driven vibrator can be permanently mounted, or equipped with clamping feet for on-off attachment. Eccentric settings are steplessly adjustable from 0 to 12 lb/in. Adjustment of eccentric and speed makes vibrator "capable of great speeds at lower eccentric settings, or tremendous force at lower speeds with higher settings—3 lb/in. at 5,000 rpm = 2,000 lb force; 12 lb/in. at 3,500 rpm = 4,000 lb force." *Tremix Co.*

Hydroframe 'Boot' (RA-5)

A flexible boot developed jointly by Firestone and Pullman-Standard for Hydroframe cushion cars is capable of maintaining a specified maximum diameter while containing hydraulic fluids at pressures up to 300 psi. Outside cover material is neoprene rubber with a natural rubber inner liner. Two plies of nylon tire cord reinforce body. Bead reinforcement at both ends of boot is heat-treated steel wire. *Firestone Tire & Rubber Co.*

RAILWAY AGE WEEKLY

30 Church Street, N.Y., N.Y. 10007 READERS' SERVICE (Att. George Johnson)

PLEASE SEND ADDITIONAL INFORMATION ABOUT PRODUCTS IN ADVERTISEMENTS NUMBERED: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60

PLEASE SEND INFORMATION ABOUT PRODUCTS DESCRIBED ON PAGE 87 MARKED RA-1 RA-2 RA-3 RA-4 RA-5

NAME ..... TITLE.....

COMPANY .....

ADDRESS .....

CITY ..... ZONE ..... STATE .....

3/28/66

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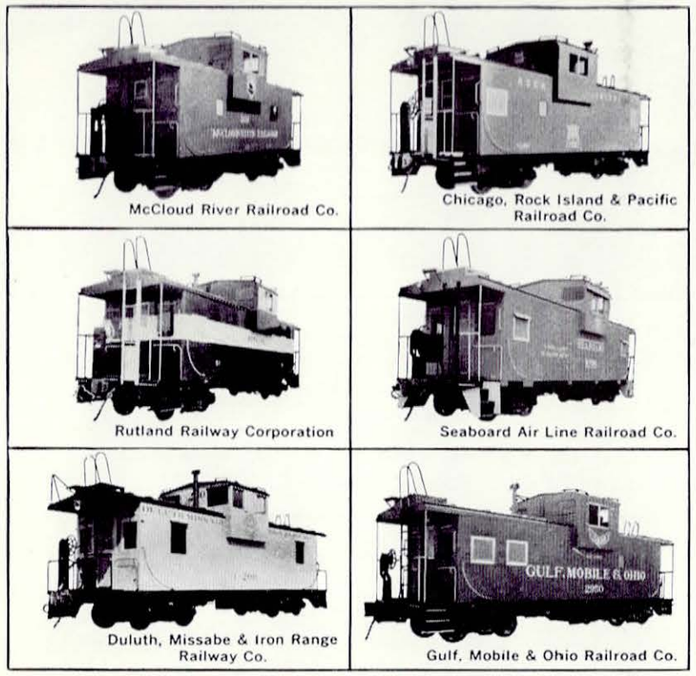
Circle 44 on reader service card ►

6 OF OUR FOREMOST RAILROADS WHO USE INTERNATIONAL EXTRA WIDE VISION CABOOSES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Chicago, Rock Island & Pacific Railroad Co.
Rutland Railway Corporation
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Circle 45 on reader service card

GN lumber-train test pays off

(Continued from page 82)

up a four-unit helper over the Cascades and both trains taking on four-unit helpers over the Rockies. The trains were classified at GN's Gavin Yard at Minot and consolidated into the 134-car train which completed the movement into Lyndale Yard in Minneapolis. A few loads were delivered in the area, but most of the cars were then switched to connections for movement south and east of the Twin Cities, to destination points in 24 other states.

GN had the operation under a careful watch all the way. LS-2 from Everett and the consolidated train from Minot carried a rider car (actually an air-brake instruction car) manned by J. H. Woolford, trainmaster, division of economic research; and John Hick and Nicholas Likarish, assistant superintendents in the car department.

• **Success for a demonstration.** One observer summed up the test results this way: "The consensus is that the lumber train came through with flying colors. It successfully demonstrated that flat cars are capable of carrying packaged lumber, regardless of the weather." Among the major advantages of the flat-car method of shipping: Time saved in loading and unloading, adaptability of the loads to outdoor storage, release of short-supply box-car equipment for other uses.

A number of different types of flat car were used in the demonstration run, including GN's new Thrall-built 60-foot flats and bulkhead cars. Twenty-five cars were equipped with cushioning devices—14 with 10-inch FreightMaster units and 11 with 12-inch Hydra Buff devices.

In the total shipment were about 4.7 million board feet of kiln-dried framing lumber—enough to build 400 medium-size houses. Twenty-two forest-products companies in Washington, Oregon, Idaho, Montana and British Columbia were represented.

Paper used for the wrapping is described as waterproof, weather-resistant and especially fabricated to permit "breathing," to eliminate condensation and subsequent deterioration.

The paper-wrap concept, GN notes, was developed several years ago—and flat-car movement of lumber has been heading upward ever since. As recently as 1962, only about 200 loads were shipped by flat car—but the total for the industry last year exceeded 35,000 carloads, and the success of the GN train makes the shipping method look better and better. ■

Dividends Declared

ATLANTIC COAST LINE.—75¢, quarterly, paid March 11 to holders of record Feb. 4.

BEECH CREEK.—50¢, quarterly, payable April 1 to holders of record March 15.

CHESAPEAKE & OHIO.—$1, quarterly, paid March 21 to holders of record March 1.

CHICAGO GREAT WESTERN.—Preferred, 62½¢, quarterly, payable March 31 to holders of record March 15.

CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC.—25¢, quarterly; Preferred, $1.25, quarterly, both payable March 24, June 23, Sept. 22 and Dec. 22 to holders of record March 4, June 3, Sept. 2 and Dec. 2.

CHICAGO SOUTH SHORE & SOUTH BEND.—15¢, paid Feb. 18 to holders of record Feb. 8.

CLEVELAND & PITTSBURGH.—7% Guaranteed, 87½¢, quarterly; 4% Guaranteed, 50¢, quarterly, both paid March 1 to holders of record Feb. 10.

DENVER & RIO GRANDE WESTERN.—27½¢, quarterly, paid March 14 to holders of record March 1.

ERIE & PITTSBURGH.—87½¢, quarterly, paid March 10 to holders of record Feb. 28.

GULF, MOBILE & OHIO.—55¢, quarterly, paid March 14 to holders of record Feb. 21; Preferred, $1.25, quarterly, payable Sept. 12 to holders of record Aug. 24.

LOUISVILLE & NASHVILLE.—$1, quarterly, paid March 11 to holders of record Feb. 2.

MAINE CENTRAL. — Common, $1, special, paid March 15 to holders of record Feb. 25.

MISSOURI PACIFIC.—Class A, $1.25, quarterly, payable March 31 to holders of record March 18.

NEW YORK CENTRAL.—52¢, quarterly, payable April 14 to holders of record March 17.

NORTHERN PACIFIC.—65¢, quarterly, payable April 29 to holders of record April 8.

NORTH PENNSYLVANIA.—$1, quarterly, paid Feb. 25 to holders of record Feb. 18

PEORIA & EASTERN.—$2.25, payable April 1 to holders of record March 18.

PITTSBURGH & LAKE ERIE.—$1.50, quarterly; $1, extra, both paid Jan. 17 to holders of record Dec. 31; $1.50, quarterly, payable April 15 to holders of record April 1.

PITTSBURGH, FORT WAYNE & CHICAGO.—Preferred, $1.75, quarterly, payable April 5 to holders of record March 10.

PENNSYLVANIA.—40¢, quarterly, paid March 25 to holders of record March 7.

ST. LOUIS-SAN FRANCISCO. — 50¢, increased quarterly, paid March 15 to holders of record March 1; Preferred, $1.25, quarterly, paid March 1 to holders of record Feb. 4.

SEABOARD AIR LINE.—45¢, quarterly, paid March 25 to holders of record March 11.

SOO LINE.—$1.50, paid March 25 to holders of record March 4.

SOUTHERN.—70¢, quarterly, paid March 15 to holders of record Feb. 15; Preferred, 25¢, quarterly, payable March 15, June 15 and Sept. 15 to holders of record Feb. 15, May 13 and Aug. 15, respectively.

SOUTHERN PACIFIC.—37½¢, quarterly, paid March 21 to holders of record March 1.

TEXAS & PACIFIC.—common, option of 1 share for each 20 shares held, or $4 a share in cash, payable July 15 to holders of record June 23.

UNION PACIFIC.—45¢, quarterly; Preferred, 20¢, semiannual, both payable April 1 to holders of record March 7.

UNITED NEW JERSEY RR & CANAL.—$2.50, quarterly, payable April 11 to holders of record March 18.

WESTERN MARYLAND.—40¢, quarterly, payable March 30 to holders of record March 21.

WHEELING & LAKE ERIE.—$1.43¾¢, quarterly, paid Feb. 1 to holders of record Jan. 14; $1.43¾, quarterly, payable May 2 to holders of record April 8.

Current Publications

DATA SYSTEMS—A NEW TECHNOLOGY IN AN OLD INDUSTRY. Addresses, Panel Discussion, and Workshop Presentations presented at the First Annual Meeting of the Data Systems Division, Association of American Railroads. 298 pages, illustrated, tables, drawings, mimeographed. For copies write Secretary, Data Systems Division, Association of American Railroads, 716 Transportation Bldg., Washington D.C. 20006. $2.00.

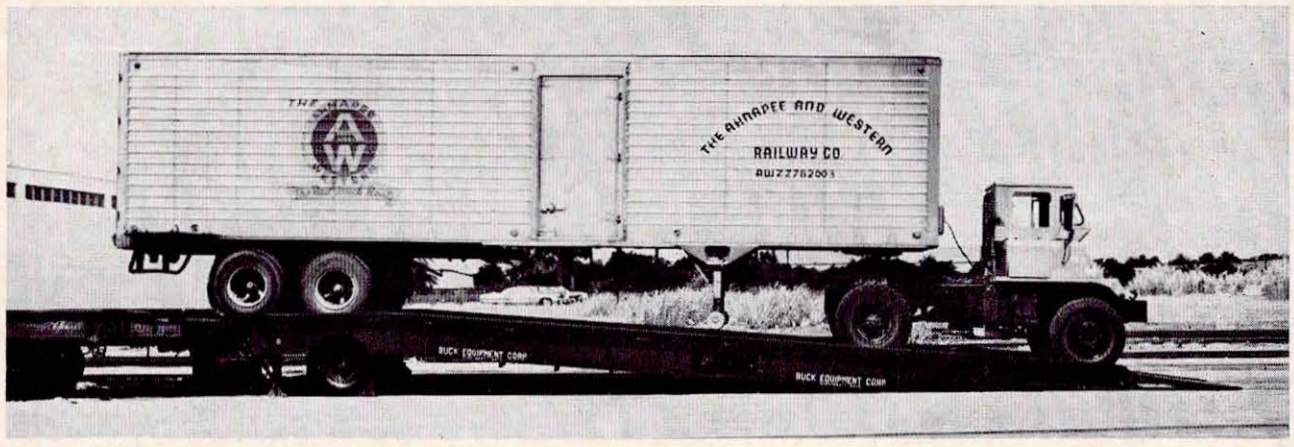
THE RAILROAD AND THE SPACE PROGRAM; An Exp'oration in Historical Analogy, edited by Bruce Mazlish. 223 pages. The M.I.T. Press, Cambridge, Mass. $7.50.

THE TRAINS WE RODE, Volume 1, Alton-New York Central, by Lucius Beebe and Charles Clegg. 465 pages, illustrations. Howell-North Books, 1050 Parker St., Berkeley, Cal. 94710. $15.

SURVEY OF RAILWAY REPAIR SHOPS FOR FREIGHT AND PASSENGER CARS, prepared and compiled by the Research Department, Simmons-Boardman Publishing Corp., 30 Church St., New York, 10007. 28 pages. $4.50

SURVEY OF RAILWAY REPAIR SHOPS FOR DIESEL-ELECTRIC LOCOMOTIVES, prepared and compiled by the Research Department, Simmons-Boardman Publishing Corp., 30 Church St., New York, 10007. 18 pages. $2.50.

SIX ESSENTIALS FOR RAILROAD GROWTH. 115 pages, illus. Railway Systems and Management Association, 163 East Walton St., Chicago, 60611. Flexible cover, $5; case binding, $8.25.



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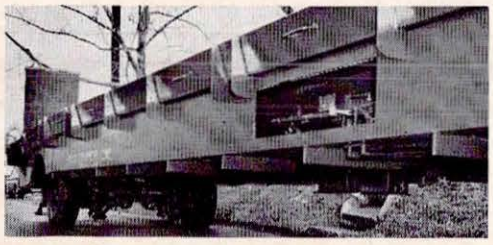

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Railway Age Service Page

REVENUES AND EXPENSES OF RAILWAYS

(Dollar figures are stated in thousands: i.e., with last three digits omitted)

Fourth Quarter and Twelve Months' Figures of Calendar Year 1965

Name of Road	Average mileage operated during period	Operating Revenues: Freight	Pass.	Total (inc. misc.) 1965	Total (inc. misc.) 1964	Operating Expenses: Maint. Way and Structures: Total 1965	Total 1964	Deprec. and Retirements	Maint. Equipment: Total 1965	Total 1964	Deprec. and Retirements	Traffic	Transportation	Total 1965	Total 1964	Operating ratio 1965	Operating ratio 1964	Net from railway operation	Railway tax accruals	Net Railway operating income 1965	Net Railway operating income 1964
Akron, Canton, & Youngstown	3 mos.	171	1,595	....	1,641	1,657	263	214	22	297	264	82	123	570	1,343	1,261	81.8	76.1	298	73	191	222
	12 mos.	171	6,574		6,767	6,445	911	745	77	1,151	1,080	326	472	2,308	5,235	4,985	77.4	77.3	1,532	616	848	693
Atchison, Topeka & Santa Fe	3 mos.	12,977	150,931	8,669	177,867	160,583	27,413	24,344	6,427	32,626	34,251	9,739	4,879	63,595	136,787	135,904	76.9	84.6	41,079	16,930	21,686	13,012
	12 mos.	12,982	551,761	38,905	654,704	637,772	92,227	86,449	13,700	126,677	132,544	37,256	18,603	240,917	513,532	511,978	78.4	80.3	141,173	60,056	73,316	65,179
Atlantic Coast Line	3 mos.	5,721	44,638	2,689	50,903	48,227	4,918	4,347	594	8,945	8,480	2,869	2,061	20,235	38,868	37,680	76.3	78.1	12,062	4,176	5,251	4,056
	12 mos.	5,721	173,612	13,957	200,928	187,309	21,787	19,747	2,326	35,249	33,226	10,749	7,985	78,290	154,238	145,719	76.8	77.8	46,689	15,925	18,765	16,012
Baltimore & Ohio	3 mos.	5,740	91,191	2,104	99,791	96,815	10,942	10,440	1,658	16,743	14,356	2,300	2,810	39,152	75,071	73,784	75.2	76.2	24,720	5,979	7,589	4,555
	12 mos.	5,743	364,203	10,111	399,722	381,889	45,583	47,774	5,142	62,742	59,516	10,017	10,877	156,323	299,465	291,887	74.9	76.4	100,257	25,333	30,126	20,632
Bangor & Aroostook	3 mos.	544	2,785	62	2,886	3,267	572	498	67	976	955	414	83	923	2,798	2,737	96.9	83.8	88	257	294	791
	12 mos.	544	13,310	269	13,811	13,174	3,019	2,773	269	3,946	3,732	1,607	347	4,133	12,419	11,772	89.9	89.4	1,392	1,085	2,153	2,281
Bessemer & Lake Erie	3 mos.	202	7,192	....	7,317	7,986	1,187	691	469	1,084	2,147	17	144	1,823	4,726	5,220	64.6	65.4	2,591	1,350	1,904	1,663
	12 mos.	202	28,672	....	29,115	28,585	3,558	2,591	777	5,568	7,603	612	561	6,362	17,964	18,585	61.7	65.0	11,150	7,102	7,294	5,823
Boston & Maine	3 mos.	1,527	13,122	1,058	15,792	15,682	1,963	2,015	546	2,231	2,585	672	349	6,832	12,211	14,396	77.3	91.8	3,581	792	1,338	—1,160
	12 mos.	1,527	52,022	4,046	63,220	61,854	7,474	7,511	1,853	8,499	9,147	2,746	1,348	27,431	48,103	51,562	76.1	83.4	15,117	4,230	5,450	119
C P R Lines in Maine	3 mos.	234	1,121	72	1,252	1,163	257	301	59	297	228	54	41	438	1,139	1,107	91.0	95.2	113	84	—198	—218
	12 mos.	234	6,437	388	7,073	6,207	1,133	1,208	236	1,188	957	216	172	1,962	4,894	4,553	69.2	73.4	2,179	332	758	355
Central of Georgia	3 mos.	1,744	11,346	249	12,203	11,717	3,470	2,118	501	2,424	2,582	669	456	4,880	12,257	10,831	100.4	92.4	—54	Cr.34	—474	—89
	12 mos.	1,744	44,462	1,243	47,871	45,022	12,393	11,075	1,112	9,612	10,684	2,687	1,773	18,257	45,482	45,783	95.0	101.7	2,389	837	—253	—742
Central RR Co. of New Jersey	3 mos.	572	10,374	1,231	13,777	12,626	1,402	1,408	313	2,466	2,355	461	345	6,837	11,781	11,719	85.5	92.8	1,996	1,311	—617	—1,325
	12 mos.	575	40,572	5,009	15,782	48,765	5,479	5,652	1,255	9,093	9,672	1,676	1,294	26,474	45,265	45,613	87.4	93.5	6,517	5,376	—3,240	—5,678
Central Vermont	3 mos.	382	1,991	112	2,247	2,595	526	593	133	316	298	22	54	1,019	1,994	2,109	88.7	81.3	253	146	—218	13
	12 mos.	382	7,620	467	8,696	9,198	2,051	2,016	295	1,144	1,135	97	215	4,083	7,919	7,769	91.1	84.5	778	655	—1,182	—494
Chesapeake & Ohio	3 mos.	5,119	98,019	1,311	104,859	97,035	9,822	10,384	1,584	16,731	19,092	6,846	2,748	39,769	75,857	79,165	72.3	81.6	29,001	13,402	16,076	9,907
	12 mos.	5,119	369,987	5,330	396,648	372,894	41,322	42,784	6,200	69,757	70,915	25,803	10,150	153,101	299,420	292,919	75.5	78.6	97,228	43,324	53,432	50,998
Chicago & Eastern Illinois	3 mos.	862	9,805	347	10,923	9,951	1,368	1,282	108	2,092	1,288	549	369	3,837	8,299	7,674	76.0	77.1	2,624	553	1,108	888
	12 mos.	862	35,617	1,517	40,579	37,977	4,870	4,846	435	6,662	5,934	2,089	1,486	15,379	30,998	30,048	76.4	79.1	9,581	2,427	3,486	2,351
Chicago & Illinois Midland	3 mos.	121	1,949	....	1,990	2,116	114	128	22	256	356	80	27	449	1,276	1,268	64.1	59.9	713	560	83	329
	12 mos.	121	7,739		7,901	8,971	504	495	87	1,096	1,570	322	275	1,839	4,590	5,098	58.1	56.8	3,311	2,033	902	1,598
Chicago & North Western	3 mos.	10,246	49,124	4,620	56,249	57,345	8,692	8,082	1,334	8,904	9,285	3,019	1,872	22,738	45,177	45,371	80.3	79.1	11,072	3,837	3,377	4,343
	12 mos.	10,345	199,793	18,099	227,589	220,811	34,786	35,554	5,237	36,229	37,577	11,982	7,370	89,825	180,182	181,982	79.2	82.4	47,406	15,730	13,534	10,658
Chicago, Burlington & Quincy	3 mos.	8,545	59,899	4,957	72,508	71,451	9,297	9,125	1,427	12,957	12,589	4,327	2,117	27,785	55,688	56,855	76.8	79.6	16,820	6,728	8,539	7,522
	12 mos.	8,545	222,079	20,781	270,453	267,380	36,562	37,088	5,219	51,475	49,935	16,638	8,676	111,133	211,833	217,259	82.0	81.3	48,620	23,014	20,424	24,000
Chicago Great Western	3 mos.	1,427	7,383	2	7,730	8,075	812	1,135	136	1,339	1,207	395	371	2,836	5,675	6,299	73.4	78.0	2,054	458	624	579
	12 mos.	1,427	29,205	46	30,867	31,780	3,989	4,359	578	5,322	5,401	1,649	1,481	11,621	23,692	24,375	76.8	76.7	7,174	2,266	1,290	2,095
Chicago, Milw., St. P. & Pacific	3 mos.	10,512	54,115	2,947	64,427	58,928	8,250	7,073	1,282	8,941	8,534	2,889	1,777	25,880	48,887	46,198	75.9	78.4	15,540	4,060	7,453	5,400
	12 mos.	10,522	202,080	12,301	241,361	228,239	31,871	30,424	5,209	36,388	36,002	11,483	6,835	100,696	191,577	184,768	79.4	81.0	49,684	19,020	15,289	13,106
Chicago, Rock Island & Pacific	3 mos.	7,792	48,398	3,013	56,656	51,548	6,839	6,499	792	8,992	9,582	2,232	1,591	23,493	44,412	43,320	78.4	84.0	12,245	3,316	4,360	1,185
	12 mos.	7,793	179,866	11,866	210,790	204,642	28,306	26,514	3,218	36,359	35,897	8,963	6,521	90,548	174,822	167,045	82.9	81.6	35,967	15,788	2,479	7,379
Clinchfield	3 mos.	306	6,639	....	6,678	6,301	605	559	70	931	974	414	238	1,756	3,750	3,733	56.2	59.2	2,928	656	2,524	2,093
	12 mos.	306	24,550	....	24,701	23,705	2,333	2,027	273	3,747	4,101	1,693	919	6,536	14,402	14,348	58.3	60.5	10,299	2,531	8,642	6,866
Colorado & Southern	3 mos.	709	3,617	127	4,266	4,579	552	561	47	746	694	302	89	1,771	3,430	3,680	80.4	80.4	836	306	452	171
	12 mos.	709	13,497	604	15,968	16,778	2,365	2,184	216	2,950	2,636	1,111	385	6,805	13,555	13,371	84.9	79.7	2,413	990	985	986
Ft. Worth & Denver	3 mos.	1,037	6,068	219	7,028	5,980	641	777	38	757	746	137	218	2,482	4,473	4,854	63.6	81.2	2,555	323	1,313	—394
	12 mos.	1,037	19,218	1,011	22,945	21,555	2,717	2,925	285	3,015	3,052	540	865	9,655	17,729	18,294	77.3	84.9	5,215	1,275	696	—605
Delaware & Hudson	3 mos.	734	10,244	230	10,675	10,933	1,209	1,146	259	1,921	2,240	561	323	3,466	7,565	8,288	70.9	75.8	3,110	1,179	1,691	1,318
	12 mos.	742	40,103	1,082	42,018	41,683	4,602	4,422	1,021	7,769	8,366	2,198	1,330	14,595	31,142	31,794	74.1	76.3	10,876	6,077	5,671	5,226
Denver & Rio Grande Western	3 mos.	2,163	21,882	564	23,102	20,256	1,988	2,094	321	3,443	3,132	1,326	756	7,521	15,006	14,245	65.0	70.3	8,096	4,408	3,804	3,204
	12 mos.	2,163	81,103	2,952	86,401	79,138	9,197	8,675	1,420	13,351	11,760	4,867	3,088	29,240	59,821	55,318	69.2	69.9	26,580	13,940	13,317	12,117
Detroit & Toledo Shore Line	3 mos.	50	1,570	....	1,705	1,637	144	182	16	244	249	92	73	674	1,193	1,281	70.0	78.2	512	171	204	83
	12 mos.	50	6,453	....	6,971	6,531	705	673	53	939	973	356	279	2,695	4,844	4,680	69.5	71.7	2,126	674	645	475
Detroit, Toledo & Ironton	3 mos.	470	6,347	....	6,866	6,293	588	524	173	1,668	1,636	702	205	2,114	4,879	4,595	71.1	73.0	1,987	411	1,102	1,070
	12 mos.	466	25,152	....	26,913	23,867	2,452	2,210	389	5,952	5,531	2,529	835	8,033	18,492	16,816	68.7	70.5	8,422	1,654	4,988	4,590
Duluth, Missabe & Iron Range	3 mos.	515	5,045	....	5,634	6,456	969	1,110	153	1,558	1,690	514	45	2,135	5,392	5,787	95.7	89.6	241	Cr.38	328	431
	12 mos.	517	29,363	....	32,958	31,038	4,012	3,960	748	5,274	5,457	2,167	182	9,581	21,969	21,119	66.7	68.3	10,989	5,787	5,596	5,119

(Dollar figures are stated in thousands: i.e., with last three digits omitted)

Fourth Quarter and Twelve Months' Figures of Calendar Year 1965

Name of Road		Average mileage operated during period	Operating Revenues: Freight	Pass.	Total (inc. misc.) 1965	Total (inc. misc.) 1964	Operating Expenses: Maint. Way and Structures: Total 1965	Total 1964	Deprec. and Retirements	Maint. Equipment: Total 1965	Total 1964	Deprec. and Retirements	Traffic	Transportation	Total 1965	Total 1964	Operating ratio 1965	Operating ratio 1964	Net from railway operation	Railway tax accruals	Net Railway operating income 1965	Net Railway operating income 1964
Duluth, Winnipeg & Pacific	3 mos.	174	1,555	....	1,557	1,959	189	391	22	105	152	3	....	437	768	1,194	49.4	60.9	788	127	422	346
	12 mos.	174	7,125	....	7,132	7,310	1,009	1,491	70	591	601	13	....	2,201	3,959	4,432	55.5	60.6	3,173	610	1,483	1,268
Elgin, Joliet & Eastern	3 mos.	205	7,975	....	11,278	13,264	969	1,062	88	2,141	2,077	354	153	4,331	8,514	9,501	74.8	71.6	2,864	1,601	952	1,215
	12 mos.	205	36,523	....	51,534	50,002	4,385	4,237	391	8,569	7,589	1,547	579	18,953	36,498	34,838	70.8	69.6	15,036	7,866	4,832	5,560
Erie Lackawanna	3 mos.	2,895	50,731	3,141	60,414	55,547	5,591	5,644	1,429	9,449	9,239	2,408	1,335	26,735	46,223	46,045	76.5	82.9	14,191	4,211	6,009	1,615
	12 mos.	2,904	193,583	12,524	229,994	212,447	23,779	22,670	5,052	37,585	36,277	9,509	5,293	106,876	185,044	179,774	80.5	84.6	44,950	17,929	12,202	—567
Florida East Coast	3 mos.	572	6,575	12	6,708	6,246	1,119	944	234	933	946	346	162	2,258	4,909	4,166	73.2	66.7	1,799	466	609	1,277
	12 mos.	572	23,932	20	24,387	22,623	3,728	3,527	673	3,819	3,883	1,438	635	7,751	1,7663	16,007	72.4	70.8	6,724	2,095	2,254	2,747
Georgia Railroad	3 mos.	323	1,999	29	2,352	2,151	310	289	34	418	393	116	141	910	1,907	1,933	81.1	89.9	444	125	310	37
	12 mos.	323	7,341	114	8,479	7,992	1,079	1,139	121	1,601	1,523	444	551	3,565	7,309	7,215	86.2	90.3	1,169	510	724	230
Grand Trunk Western	3 mos.	946	14,660	537	16,524	13,981	1,791	2,094	228	2,388	2,363	199	268	7,441	12,688	12,660	89.4	90.5	3,836	1,267	—797	—2,512
	12 mos.	946	57,410	2,327	64,706	57,663	7,801	7,905	800	8,933	8,775	795	1,112	29,601	50,588	48,224	78.2	83.6	14,118	5,194	—2,426	—4,862
Great Northern	3 mos.	8,273	66,455	2,363	73,798	64,210	8,270	9,398	1,199	11,068	10,434	3,224	1,807	25,522	50,422	51,383	68.3	80.0	23,376	8,724	13,754	6,730
	12 mos.	8,264	236,875	10,062	265,630	250,388	36,244	39,192	4,792	44,650	41,371	12,384	7,181	98,587	200,682	194,956	75.5	77.9	74,948	28,702	33,040	25,467
Gulf, Mobile & Ohio	3 mos.	2,744	20,364	597	22,439	20,803	3,016	2,802	245	4,074	3,843	1,089	831	7,872	16,882	16,618	75.2	79.9	5,557	1,557	2,425	1,790
	12 mos.	2,744	76,325	2,355	84,161	78,679	11,199	10,385	941	15,947	15,579	4,126	3,299	29,704	64,150	61,749	76.2	78.5	20,011	6,222	8,771	7,637
Illinois Central	3 mos.	6,461	64,290	5,986	75,661	74,186	8,061	9,457	1,129	13,066	13,116	3,326	3,026	28,907	55,746	59,895	73.7	80.7	19,915	8,865	7,909	4,948
	12 mos.	6,461	238,774	22,984	282,524	273,682	35,988	36,718	4,835	51,447	50,645	13,138	7,920	111,543	222,317	222,155	78.7	81.2	60,207	26,480	22,354	18,010
Illinois Terminal	3 mos.	339	2,124	....	2,404	2,408	279	257	14	324	233	74	122	895	1,783	1,837	74.2	76.3	620	150	155	12
	12 mos.	339	8,119	....	9,277	8,991	1,035	1,009	63	1,407	1,236	303	479	3,595	7,168	7,182	77.3	79.9	2,109	676	136	—137
Kansas City Southern	3 mos.	894	10,413	274	12,074	11,889	931	957	257	1,676	1,678	437	351	4,036	7,463	7,632	61.8	64.2	4,611	1,021	2,202	2,074
	12 mos.	894	41,075	1,057	47,125	48,767	4,190	4,605	746	6,487	6,339	1,785	1,365	15,608	29,435	29,664	62.5	60.8	17,690	4,909	8,012	8,758
Lake Superior & Ishpeming	3 mos.	103	1,098	....	1,468	1,855	252	326	54	369	406	160	8	618	1,356	1,558	92.r	84.0	112	55	129	450
	12 mos.	103	4,699	....	6,086	6,268	969	905	217	1,255	1,195	567	24	1,925	4,519	1,318	74.2	68.9	1,567	692	996	1,218
Lehigh Valley	3 mos.	1,043	10,543	....	10,927	11,594	1,002	1,068	264	1,869	1,382	316	401	5,550	9,507	9,690	87.0	83.6	1,420	775	—517	—192
	12 mos.	1,045	43,452	....	44,959	45,925	4,566	4,990	1,060	6,700	6,695	1,343	1,601	22,357	38,025	39,731	84.6	86.5	6,934	3,728	—1,752	—1,611
Long Island	3 mos.	340	2,371	16,490	19,645	19,090	2,677	2,981	690	3,857	4,011	447	190	10,590	18,610	18,719	94.7	98.1	1,035	1,041	—1,033	—1,638
	12 mos.	340	9,407	66,857	79,122	78,492	10,594	11,676	1,580	15,560	15,730	1,787	761	41,727	73,228	72,839	93.6	92.8	5,894	4,444	—2,422	—1,954
Louisiana & Arkansas	3 mos.	746	6,451	135	7,021	6,754	529	494	90	930	944	305	287	2,358	4,394	4,272	62.6	63.3	2,627	270	1,850	1,568
	12 mos.	746	25,820	553	28,100	26,382	2,819	2,921	259	3,750	3,536	1,317	1,117	9,191	17,977	17,483	64.0	66.3	10,123	2,413	5,064	4,103
Louisville & Nashville	3 mos.	5,645	68,704	1,388	75,043	68,019	9,895	8,735	1,460	14,094	13,113	5,978	1,743	27,052	56,314	57,790	75.0	85.0	18,729	8,190	10,774	8,609
	12 mos.	5,649	250,788	6,180	274,613	259,501	35,207	31,616	4,595	54,497	49,898	23,069	6,799	103,936	215,006	208,927	78.3	80.5	59,606	22,526	34,712	30,127
Maine Central	3 mos.	932	5,446	2	5,600	5,347	1,094	980	102	1,298	1,193	285	85	2,027	4,867	4,787	86.9	89.5	733	234	321	325
	12 mos.	933	21,318	11	21,974	21,390	4,163	3,893	356	4,507	4,231	1,119	345	7,585	17,996	17,506	18.9	81.8	3,977	1,459	1,790	1,895
M-K-T Lines	3 mos.	3,017	12,386	Dr. 1	12,932	11,936	2,806	2,564	299	2,594	2,576	536	608	5,426	12,098	11,594	93.5	97.1	834	825	—1,611	—2,216
	12 mos.	2,933	46,259	113	49,214	50,736	8,327	9,875	1,169	9,497	10,746	2,632	21,64	21,632	44,221	46,549	89.9	91.7	4,993	3,976	—5,640	—6,610
Missouri Pacific	3 mos.	9,079	74,787	1,401	83,445	78,782	11,715	10,802	1,394	15,085	13,124	3,637	1,977	29,270	61,806	58,832	74.1	74.7	21,639	5,926	9,701	9,618
	12 mos.	9,145	279,473	6,364	313,732	306,999	42,595	42,564	4,807	53,828	51,671	14,688	7,691	111,679	230,291	228,604	73.4	74.5	83,441	21,582	38,928	37,460
Monon	3 mos.	541	5,002	85	5,451	5,032	664	844	73	768	896	217	254	1,691	3,793	4,248	69.6	84.4	1,659	313	921	165
	12 mos.	541	17,813	286	19,424	19,274	2,300	2,739	251	2,991	3,317	971	1,029	6,959	14,811	15,547	76.3	80.7	4,613	1,208	2,209	1,350
New York Central	3 mos.	9,776	132,923	12,666	170,335	163,549	15,197	14,257	2,776	27,990	29,372	7,231	3,149	77,621	132,556	135,407	77.8	82.8	37,779	6,691	19,839	9,072
	12 mos.	9,797	518,239	51,538	661,454	641,520	67,633	65,292	11,552	111,443	114,043	28,441	12,610	304,133	528,060	524,153	79.8	81.7	133,393	41,057	50,348	34,171
Pittsburgh & Lake Erie	3 mos.	213	6,426	33	7,066	8,595	359	83	173	2,291	1,983	985	232	2,703	6,182	5,374	87.5	62.5	884	2,808	2,590	3,757
	12 mos.	214	32,595	136	34,975	34,263	3,238	3,463	786	10,881	9,570	3,935	957	11,419	28,804	26,833	82.4	78.3	6,171	12,195	11,577	13,164
New York, New Haven & Hartford	3 mos.	1,594	16,032	9,792	31,721	31,203	4,275	4,692	762	6,164	6,142	1,410	575	15,928	29,269	30,378	92.3	97.4	2,452	2,323	—2,679	—4,837
	12 mos.	1,611	64,176	38,659	121,434	121,597	16,642	17,305	3,040	23,838	24,282	5,738	2,351	61,981	113,983	115,204	93.9	94.7	7,451	9,151	—16,008	—17,056
Norfolk & Western	3 mos.	7,551	146,205	1,139	155,112	144,828	15,710	15,149	2,505	24,183	21,352	9,245	3,608	53,223	104,503	100,326	67.4	69.3	50,609	15,884	31,601	28,652
	12 mos.	7,565	558,522	4,865	592,493	558,206	57,202	54,966	9,394	89,544	83,550	34,468	14,155	205,271	390,725	371,094	65.9	66.5	201,768	70,010	117,939	103,790
Norfolk Southern	3 mos.	593	2,365	....	2,413	2,361	341	398	62	331	416	133	141	854	1,871	2,003	76.6	84.8	541	149	197	13
	12 mos.	593	8,677	....	8,878	8,826	1,516	1,545	249	1,432	1,534	537	575	3,072	7,432	7,601	83.7	86.1	1,446	610	295	82
Northern Pacific	3 mos.	6,749	47,485	1,702	52,578	46,424	7,443	6,826	1,130	9,403	7,802	2,839	1,474	19,976	41,586	39,502	79.1	85.1	10,992	5,460	7,317	3,703
	12 mos.	6,763	178,006	7,215	197,913	184,301	30,816	30,374	4,484	36,116	33,850	11,530	5,609	78,407	163,703	157,242	82.7	85.3	34,210	21,507	18,153	12,879
Northwestern Pacific	3 mos.	328	2,239	....	2,260	2,149	370	485	114	136	135	4	19	740	1,338	1,608	59.2	74.8	922	178	223	—153
	12 mos.	328	7,194	Dr. 1	7,258	10,715	1,245	1,978	265	504	593	17	77	2,455	4,569	6,308	63.0	58.9	2,689	747	70	758

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Railway Age Service Page

REVENUES AND EXPENSES OF RAILWAYS

Railway Age Service Page

REVENUES AND EXPENSES OF RAILWAYS

(Dollar figures are stated in thousands: i.e., with last three digits omitted)

Fourth Quarter and Twelve Months' Figures of Calendar Year 1965

Name of Road		Average mileage operated during period	Operating Revenues: Freight	Pass.	Total (inc. misc.) 1965	Total (inc. misc.) 1964	Operating Expenses: Maint. Way and Structures: Total 1965	Total 1964	Deprec. and Retirements	Maint. Equipment: Total 1965	Total 1964	Deprec. and Retirements	Traffic	Transportation	Total 1965	Total 1964	Operating ratio 1965	Operating ratio 1964	Net from railway operation	Railway tax accruals	Net Railway operating income 1965	Net Railway operating income 1964
Pennsylvania	3 mos.	9,632	177,474	20,148	226,100	225,542	22,432	21,029	4,287	39,770	38,026	8,736	3,219	102,784	180,794	183,311	80.0	81.3	45,306	16,523	8,348	6,830
	12 mos.	9,632	703,318	82,957	892,554	873,240	88,197	88,620	17,160	148,879	150,535	33,838	13,466	400,476	699,670	679,657	78.4	79.9	192,884	62,456	45,503	39,185
Penn-Reading Seashore Lines	3 mos.	341	1,795	73	1,994	1,977	264	345	58	458	320	75	20	1,365	2,192	2,319	109.0	117.3	—198	138	—868	—1,006
	12 mos.	341	7,273	486	8,267	7,684	1,676	1,623	488	1,699	1,556	302	60	5,594	9,529	9,525	115.3	124.0	—1,262	664	—3,997	—4,415
Piedmont & Northern	3 mos.	150	1,427	....	1,473	1,465	159	150	18	94	106	29	106	343	840	843	57.0	57.5	633	98	334	151
	12 mos.	150	5,848	....	6,053	5,837	559	567	74	403	408	117	439	1,347	3,297	3,157	54.5	54.1	2,756	1,030	908	656
Reading	3 mos.	1,278	22,778	1,586	26,400	25,472	3,735	3,866	476	4,720	4,498	1,673	640	10,434	21,020	21,607	79.6	84.8	5,380	1,735	2,441	903
	12 mos.	1,277	91,870	5,719	105,172	97,115	14,189	14,167	2,302	18,625	18,794	6,451	2,528	43,109	84,432	84,633	80.3	87.1	20,741	7,314	8,220	799
Richmond, Fred. & Potomac	3 mos.	118	4,354	961	6,426	6,108	473	488	101	946	874	324	92	2,287	4,246	4,371	66.1	71.6	2,180	920	908	808
	12 mos.	118	17,278	4,372	25,737	24,667	2,066	1,994	398	3,786	3,668	971	370	9,206	17,244	16,840	67.0	68.3	8,493	3,784	3,469	2,836
St. Louis-San Francisco	3 mos.	4,565	34,050	171	36,250	35,028	4,134	4,363	608	5,446	4,652	2,407	1,283	12,808	26,046	26,412	71.9	75.4	10,204	3,823	5,043	3,675
	12 mos.	4,635	130,743	1,104	140,635	132,740	18,738	17,226	2,900	20,695	19,380	8,142	5,123	51,358	105,296	103,825	74.9	78.2	35,339	14,072	16,325	12,178
St. Louis Southwestern	3 mos.	1,568	23,916	....	24,166	19,673	2,899	2,264	282	4,432	3,945	1,508	621	8,797	17,551	14,736	72.6	74.9	6,615	2,293	4,433	2,962
	12 mos.	1,555	88,166	2	89,512	79,582	8,342	7,895	932	13,611	12,256	5,839	2,464	30,305	57,887	51,538	64.7	64.8	31,624	10,838	21,427	16,285
Seaboard Air Line	3 mos.	4,123	38,713	3,302	46,365	44,783	4,771	4,791	883	8,353	8,306	2,783	1,736	18,295	35,299	35,529	76.1	79.3	11,066	3,780	5,606	5,459
	12 mos.	4,123	150,964	14,821	181,197	174,668	22,909	22,624	3,159	33,094	32,483	10,770	6,822	69,647	140,993	137,230	77.8	78.6	40,203	15,753	18,880	18,536
Soo Line	3 mos.	4,692	20,651	62	21,205	20,000	3,360	2,951	365	3,089	3,150	835	713	8,266	16,440	16,443	77.5	72.2	4,765	1,619	1,577	681
	12 mos.	4,692	83,323	318	85,902	81,894	13,470	12,377	1,335	11,780	12,346	3,256	2,841	32,906	65,044	63,916	75.7	78.0	20,858	6,664	8,388	6,856
Southern Railway	3 mos.	6,254	74,115	1,458	80,067	77,314	9,442	8,551	1,799	13,278	13,153	4,035	1,840	26,791	55,997	51,255	69.9	66.3	24,070	6,950	11,857	13,125
	12 mos.	6,254	276,911	7,543	303,218	291,913	35,566	36,128	5,533	52,230	50,950	16,488	7,301	101,455	214,946	201,965	70.9	69.2	88,272	28,267	40,707	44,630
Alabama Great Southern	3 mos.	327	4,166	95	4,743	4,771	548	602	114	982	952	237	159	1,725	3,805	3,636	80.2	76.2	938	347	216	583
	12 mos.	327	16,484	484	18,930	17,786	2,465	2,681	403	3,811	3,699	1,036	624	6,635	15,050	14,176	79.5	79.7	3,880	1,364	1,145	1,735
Cinn. New Orleans & Tex. Pac.	3 mos.	337	9,606	123	10,414	10,466	1,182	1,200	214	2,481	2,509	836	315	3,526	8,207	7,931	78.8	75.8	2,208	761	1,372	1,841
	12 mos.	337	37,823	679	41,339	40,071	4,674	5,041	916	9,798	9,755	3,467	1,236	13,451	32,050	30,518	77.5	76.2	9,288	3,330	5,961	6,877
Georgia Southern & Florida	3 mos.	396	2,005	43	2,181	2,110	248	59	142	174	204	30	55	826	1,461	1,205	67.0	57.1	720	85	129	314
	12 mos.	396	7,555	230	8,467	8,441	1,452	1,129	314	750	892	121	225	3,047	6,178	5,735	73.0	67.9	2,289	380	—263	431
New Orleans & Northeastern	3 mos.	203	2,647	75	3,000	2,803	236	279	87	835	648	271	106	1,118	2,588	2,151	86.3	76.7	412	263	179	516
	12 mos.	203	9,949	374	11,298	11,133	1,525	1,651	343	2,989	2,799	1,176	412	3,813	9,885	9,155	87.5	82.2	1,413	972	704	1,560
Southern Pacific	3 mos.	11,708	192,038	4,752	207,033	180,076	30,814	29,716	6,307	41,428	36,901	12,500	3,400	78,857	165,600	158,714	80.0	88.1	41,433	16,853	13,421	1,582
	12 mos.	11,781	736,859	21,014	795,896	744,413	97,611	94,575	13,200	156,454	151,825	49,054	13,533	312,696	619,171	594,395	77.8	79.8	176,724	74,560	67,348	58,888
Spokane, Portland & Seattle	3 mos.	936	9,274	231	10,144	8,388	1,353	1,267	227	1,461	1,365	427	126	4,125	7,495	6,636	73.9	79.1	2,649	1,359	868	1,210
	12 mos.	936	35,303	933	38,702	34,499	5,089	4,911	745	5,949	5,636	1,645	472	15,146	28,385	26,561	73.3	77.0	10,317	4,524	4,009	3,401
Texas & Pacific	3 mos.	1,765	16,938	412	19,151	17,840	3,416	1,697	1,239	3,655	3,379	993	661	7,259	15,912	14,008	83.1	78.5	3,239	426	1,667	1,703
	12 mos.	1,827	63,369	1,805	71,802	70,919	10,512	8,232	2,025	12,439	11,689	3,876	2,603	28,041	57,286	54,343	79.8	76.6	14,516	3,453	5,731	6,035
Toledo, Peoria & Western	3 mos.	239	1,979	....	2,094	1,879	195	235	21	234	261	45	168	689	1,458	1,525	69.6	81.1	636	80	254	72
	12 mos.	239	7,649	....	8,097	7,634	902	1,021	82	802	819	177	644	2,554	5,558	5,572	68.6	73.0	2,539	762	772	502
Union Pacific	3 mos.	9,554	133,390	5,302	151,495	137,014	17,589	13,214	1,837	21,907	25,447	10,545	4,131	52,447	104,536	100,746	69.0	73.5	46,958	19,539	24,615	18,555
	12 mos.	9,567	482,092	23,618	549,190	529,079	64,256	59,557	6,585	95,821	100,285	39,525	15,039	197,615	403,683	395,192	73.5	74.7	145,507	66,383	66,944	53,468
Ann Arbor	3 mos.	293	2,463	9	2,524	2,163	248	197	22	530	339	147	54	1,048	1,937	1,764	76.8	81.6	587	150	194	97
	12 mos.	293	9,372	9	9,638	8,235	1,007	971	86	1,764	1,475	536	215	4,355	7,721	6,958	80.1	84.4	1,917	656	411	265
Western Maryland	3 mos.	872	12,136	....	12,753	12,556	1,480	1,842	220	2,898	2,817	920	390	4,200	9,613	10,367	75.4	82.6	3,140	1,884	2,188	2,100
	12 mos.	873	48,490	....	50,871	47,295	6,675	6,594	763	11,696	10,783	3,858	1,549	17,112	39,443	38,149	77.5	80.6	11,428	6,811	8,417	8,020
Western Pacific	3 mos.	1,177	15,875	489	16,720	13,275	2,019	2,379	256	2,509	2,209	830	833	5,188	11,727	11,625	70.1	87.6	4,993	1,727	2,771	1,453
	12 mos.	1,177	55,922	2,383	59,666	53,160	7,225	7,465	1,065	9,282	8,505	2,717	3,221	20,772	45,127	43,534	75.6	81.9	14,539	5,382	7,857	5,378

NOTE: New Interstate Commerce Commission qualifications for the various classes of railroads became effective Jan. 1, 1965. Operating revenues of at least $5,000,000 are required to qualify as Class I. Hence, several railroads formerly included in this compilation are no longer listed. Three other railroads once included (Wabash, Pittsburgh, & West Virginia and New York, Chicago & St. Louis) are now part of the Norfolk & Western.

Ship lines get up steam for containers

U.S. Freight's Forgash thinks railroads should climb aboard.

OVERSEAS CONTAINER TRAFFIC is growing rapidly, and major shipping companies are converting old vessels and building new containerships to meet the demand.

A boom in overseas container traffic is definitely on the horizon, and the railroads had better tool up for it or they're going to miss the boat.

That's the candid opinion of one of U. S. transportation's more candid spokesmen, Morris Forgash, president of the giant freight forwarding operation known as United States Freight Company.

Forgash, a long-time booster of containerization ("sometimes I feel I don't ever want to make another speech on the subject"), last month demonstrated how much he does believe in the advent of the container boom. U. S. Freight paid out more than $6 million for 300,000 shares of Moore-McCormack stock, a shipline that's going full steam on expanding containership service between Eastern U. S. and European ports. Moore-McCormack is one of a number of major shipping lines that have recently announced ambitious plans to enlarge containerization operations.

● **How about the railroads?** While marine men are hustling to get their growing container fleets shipshape, railroad men have been paying almost exclusive attention to tending their multiplying piggyback herds. To date, with a few exceptions, the railroads have shied away from involvement in container service. New York Central with its Flexi-Vans, the Southern, Southern Pacific and a few other roads are the only ones that have moved into the field.

"The trouble with railroads," says Forgash, "is that right now their whole thrust and thinking is on wheeled vehicles in piggyback. I think that this new growth of ocean containerization will be the trigger that will set off new thinking by the railroads—to make them realize the virtues of containerization."

Some railroad men, of course, are already aware of the potential for overseas container traffic. Trailer Train's

RAILROAD CONTAINER SERVICE is making slow progress because emphasis is still on phenomenally successful piggyback.

President, Jim Newell, while cautious in his predictions for domestic containerization, believes "we are on the verge of a tremendous expansion in use of containers in intermodal service with water carriers" (RA, Feb. 28, p. 31).

New York Central's director of Flexi-Van sales and service, Roy L. Milbourne, goes further: "The container will eventually supplant the box car in transporting many commodities by the sheer force of utilization alone."

The Central is planning to launch its Trans-European Road Rail Express (TERRE), an all-container service running from northern European ports to Italian industrial cities, sometime this Fall. The problem to date has been the lack of European flat cars of adequate size to handle the 40-foot containers used in international traffic. Now, a number of European railroads are building cars designed to meet containerization needs.

● **Penetrating the frontier.** Forgash was one of the first and most enthusiastic boosters of piggyback. And he was stumping for containerization almost a decade ago. Now he believes that containerization is the next step in the evolution of fast, low-cost transport.

"TOFC remained an illusive vision until the railroads discarded timeworn principles of ratemaking and devised a price structure that reflects only the service performed," Forgash says. "So if containerization is to penetrate the next frontier, a bold approach to implementation will be required."

He believes that if realistic pricing—as has evolved in the field of piggyback—could be established between common carriers, containerization could move very quickly toward national and eventually worldwide coordination. His containerization dream: a shipper would be able to send freight anywhere in the world and have it put down at the consignee's door without rehandling enroute, dealing with one carrier, and paying a single rate for the trip.

Proponents of containerization, such as Forgash, state their case this way: most products that move in commerce move in containers at least part of the trip, whether the container is a trailer, box car or whatever. If the container is standardized and interchangeable among other modes of transportation, a tremendous saving in time, labor, and money can be effected. And loss and damage—the plague of all carriers and shippers—can be cut to the minimum.

He points out that ocean freight rates must be simplified—synchronized with land transportation at both ends of the journey.

"If goods have to be reshipped numerous times, at different rates, on several bills of lading, the advantages of container service are impaired," he adds. "Containerization attains the ultimate in mobility when a shipment in Chicago, for example, can move to a consignee in Paris in the same container, at a single through rate, on one bill of lading."

'The two steel rails give railroads unquestionable superiority in providing high-speed, long-distance transportation.'
—MORRIS FORGASH

The example he picked is a good one for U. S. Freight. In January, the company's largest freight forwarding subsidiary, Universal Carloading & Distributing, inaugurated just such a service. A single bill of lading, single carrier service now links shippers and receivers in five midwestern states with those in all French cities. In France, the containers are picked up and delivered by USF's recently acquired subsidiary, La Generale de Transports.

"This is an initial operation and other areas both within the United States and Europe will be added rapidly this year," Forgash explains. The company also has through container service from Los Angeles to Belgium, and from Chicago to London.

● **Overcoming the obstacles.** Because of his efforts to promote containerization, Forgash in 1962 found himself heading up a committee to handle one of the greatest problems then facing the infant transport service—standardization of the containers used in the operation. Up to that time practically any type of box that could be nailed or screwed together ultimately found its way into container service. The problems of handling and shipping were exasperating.

Forgash's committee drew up specifications for 20- and 40-foot long containers, 8 feet high and 8 feet wide. Lengths of all containers were restricted to multiples of ten.

Last September, after years of negotiations, these same container standards were agreed upon at a meeting of the International Standards Organization at the Hague. A major hurdle had been cleared.

But the problems facing this type of freight transportation service still come right down to the box itself. Ships have to have their holds converted to efficiently accept the containers; the railroads need more cars suited to carry them; special cranes are needed for loading and unloading; wheeled chassis for pickup and delivery have to be bought; and large reserves of containers must be acquired. All in all, an expensive proposition.

As far as the railroads—who are heavily committed to piggyback—go, it will require a concerted effort to really get containerization off the ground and rolling over the rails, most observers agree.

"COFC service must be promoted by a large group of railroads at the same time if it is to approach the rate of growth of TOFC" or replace any great amount of piggyback service, says one railroader.

Forgash agrees: "The railroads have got to get together on this thing to really develop it . . . to realize the opportunities ahead."

"It's a funny thing. I saw this happen when piggyback was first coming in. One railroad president even told me: 'I'll never put those wheeled things on *my* railroad!' What was the piggyback loading figure for the industry last year? Over a million!"

● **Containerization—a step beyond.** Admittedly partial to railroads—he's their biggest single private customer—Forgash expresses frustration that the rail industry has been dragging its feet on containerization.

"The two steel rails give railroads unquestionable superiority in providing high-speed, long-distance transportation. That, combined with the flexibility, maneuverability and economic advantages of trucks as short distance carriers, give you true coordination. This is what piggyback service is, and container service is a step beyond this."

Forgash believes that to get the railroads more active in containerization, some incentives have to be presented. He suggests the modification of tax laws, offering accelerated depreciation of all types of new equipment built to specified standards.

He advocates all-purpose rail equipment, because with it he believes the railroads can drastically cut empty car mileage, now running at some 40% of total mileage. Problems of load factor and empty movements can be solved with standardized, interchange-

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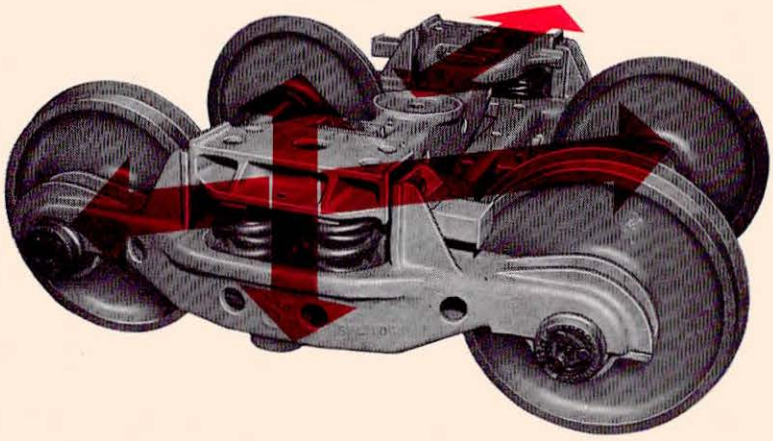

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2. AN EXCELLENT LATERAL RIDE. The suspension design permits 1¾" lateral displacement – *four times* that of the conventional freight car truck – with fewer wear points. The bolster spring design and snubbing arrangement converts this displacement into an easy, controlled lateral ride. Higher, wider spring location reduces sway and roll. Journal bearing design provides additional lateral, as well as vertical, cushioning.

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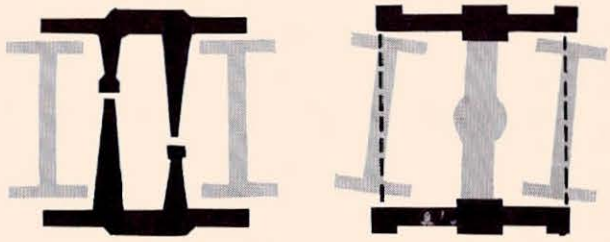

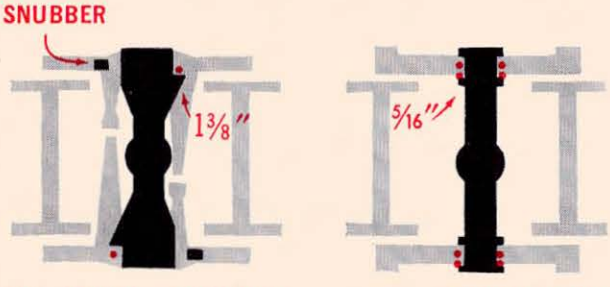

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TRANSPORT SPENDING AT $17 BILLION—Government spending for transportation facilities this year will total more than $17 billion. This will be a new high, supplanting in that role 1965's $15.9 billion. That's the general showing of the latest AAR study of federal, state and local figures. The figures include all spending on aids to domestic transportation. The breakdown puts prospective 1966 federal expenditures at $5.8 billion, and prospective state and local outlays at $11.2 billion. Comparable figures for 1965 were $5.4 billion and $10.5 billion.

The 1966 expenditures will bring to $259.4 billion the cumulative government outlays for construction, operation and maintenance of highway, waterway and airway facilities. That includes $65.3 billion in federal expenditures and $194.1 billion spent by state and local governments.

FIVE-FOLD INCREASE IN DECADE—The AAR calculates that the prospective federal expenditures for 1966 are nearly five times as great as the like outlays of 10 years ago. These 1956 figures show that the federal government then spent $1.2 billion. The total first reached $4 billion in 1959, and the five billion line was crossed in 1964.

The Association's survey also shows that more than half of the $400 million increase over 1965 could be recovered by Congressional approval of pending Presidential recommendations calling for new or increased charges for use of publicly-provided transport facilities. The proposed new charge would apply on inland waterways, and the proposed increases would apply on highway and air-transport facilities (RA, Jan. 31, p. 8). As to the proposed initial waterway levy of two cents per gallon on vessel fuel, the AAR says the annual yield would be only about 3% of annual federal spending on waterways.

ROAD EXPENDITURES STILL IN FRONT—Expenditures for highways will top all other transport outlays in 1966—as usual. They are expected to total $14.9 billion, including $4.4 billion spent by federal government and $10.5 billion spent by state and local governments. Here, the cumulative total since 1921 (earlier figures not available) will become $231.4 billion. Included are federal expenditures of $47.5 billion and $183.9 billion spent by state and local governments.

Second largest 1966 outlays will be for aids to air transport. These will include $818.2 million for the Federal Airways, which provide signaling facilities for air transportation, $78.5 million for cash subsidies to domestic air lines, and $467.2 million for airports. The cumulative total of aids to air transport will thus become $16½ billion.

$753 MILLION FOR WATERWAYS—On waterways, $753 million will be spent this year. It will include federal expenditures of $232 million for inland and intracoastal waterways. Also included will be other federal expenditures of $201 million for facilities on the Great Lakes and coastal harbors, and $320 million spent by state and local governments. The cumulative total here is $11.5 billion. Not included are expenditures for the Merchant Marine and Coast Guard expenditures for navigation aids and for promotion of water transportation. Prospective 1966 outlays in these areas are put at $330 million and $410 million, respectively.

All of this is compared by the AAR with the private expenditures for construction, maintenance and taxes on roadway facilities of the railroads. Last year, these outlays amounted to an estimated $1.5 billion. The latest final figures (for 1963) show that the railroads spent about 20 cents out of every revenue dollar on costs and taxes for right-of-way. That compares with 5.3 cents spent by Class I intercity truckers.

able multi-purpose equipment, he says.

Making an extended forecast, he sees these problems solved by 1975. The basic railroad car he envisions as a flat car, carrying a container or a trailer. Tank cars would be replaced by collapsible containers which would fit into equipment otherwise used for dry cargo. Containers would be available in large numbers through a pool arrangement worked out by the carriers, much like the present Trailer Train operation for flat and auto-rack cars.

The wheel-less containers could even be stacked upon each other on the flat cars, he says, thereby better utilizing the space and permitting the railroads to lower their rates.

In ten years, he believes piggyback and container traffic will be speeding over the rails fast enough to successfully compete with air freight in door-to-door delivery. Coast-to-coast rail transit time can be cut to 48 hours, he says. ("I think the iron horse can beat the 707").

But one of his ideas that has not yet materialized—although he actually had the cars built and uses them for other purposes—was the integration of cars carrying demountable truck bodies into the consists of passenger trains. He still maintains that these special anodized aluminum cargo containers, which would be designed and painted to blend esthetically with passenger equipment, would be the ultimate solution to passenger train deficits on many long runs.

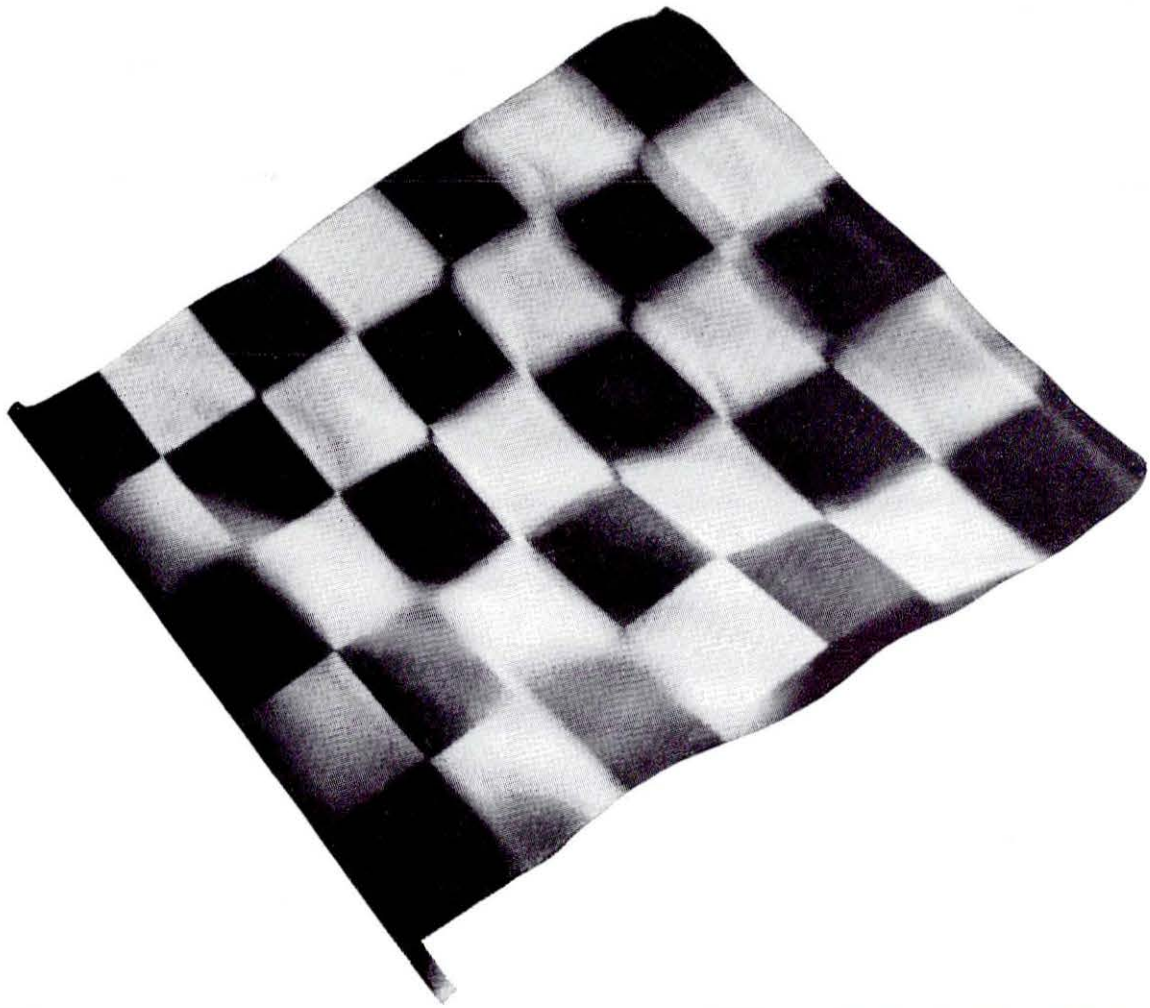
• **The ocean-going boom.** U.S. Freight's active entry into the ship line business through its purchase of Moore-McCormack stock draws attention to the stepped-up pace of containerization development in that field.

Last month large ads in newspapers proclaimed new containership service by Moore-McCormack and U. S. President Lines. Moore-McCormack is offering 6½-day service between New York and Dutch ports at a fast 23½-knot speed. Its ships are designed to handle 350 20-foot, and 175 40-foot Flexi-Van containers, or any combination of them.

Thus far, container traffic represents only about 5% of trans-Atlantic cargo traffic, but it's growing. Forgash says 75 to 80% of Atlantic freight could be carried in containers. He predicts an exchange of 50,000 containers a month between Atlantic and Gulf ports and Europe once containerization gets rolling.

In the meantime, he'll very likely go on making speeches about containerization.

"Unfortunately, new ideas don't sell themselves," he says wistfully. "They have to be sold." ■



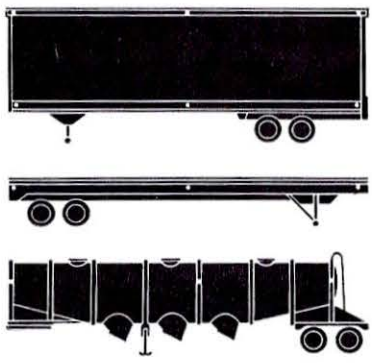
CAPACITY
TO LEAD WHERE IT COUNTS

The strong and vital Trailmobile organization is a growth company geared to meet the growing needs of companies that use trailers, tanks and containers to turn a profit. What's important to you is important to us.

We offer a complete line—you can choose the one that's right for your job. Our sales network stretches from coast to coast—to serve you wherever you are. Our research is second to none—you get the most advanced money-saving features.

And we build great capacity into every part of a Trailmobile. Like the landing gear on our van that stands up under 100,000 lb. loads. The loop-frame construction that lets you haul loads without body wracking. The full-length aluminum extrusions that give our EA tank extra strength without extra weight.

They're all part of our capacity for helping you haul big loads—with our trailers, tanks or containers—at less cost for more profit.



TRAILMOBILE MEANS CAPACITY

TRAILMOBILE

a division of Pullman Incorporated

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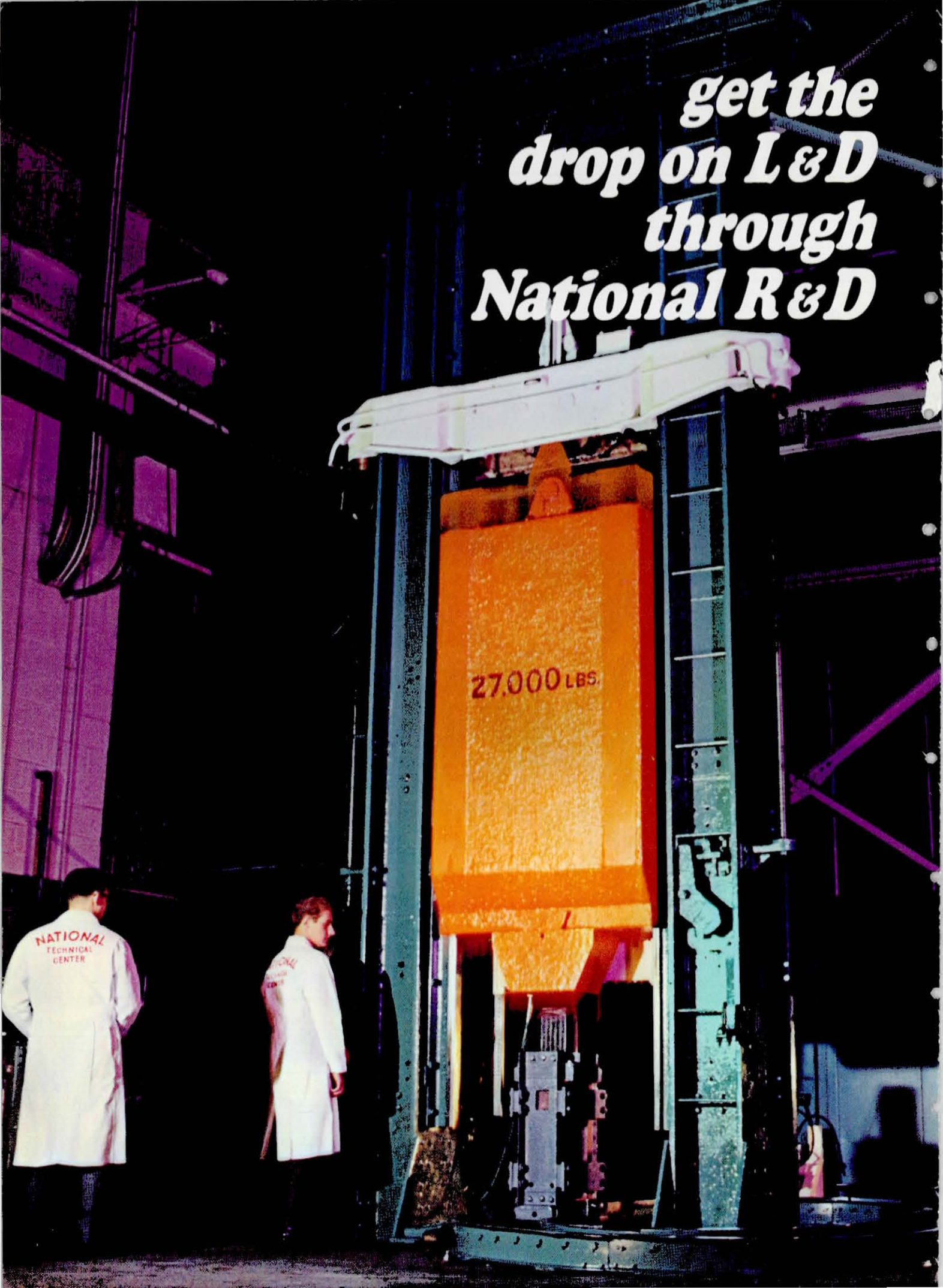
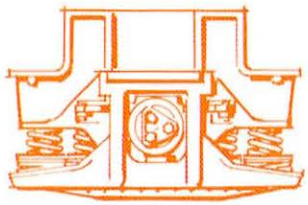

get the
drop on L&D
through
National R&D
27,000 LBS.
NATIONAL
TECHNICAL
CENTER

We burn a lot of midnight oil at National developing products that will help the railroads in their efforts to reduce Loss and Damage. We do it through a planned program of comprehensive, exhaustive Research and Development. ■ Inside National's Technical Center (left) is one of the Company's NC-440 rubber draft gears undergoing dynamic testing in the drop-hammer machine, instrumented with finest electronic equipment to record results precisely. The NC-440's 85,000 ft-lb full cushioning capacity was then doubly proven by testing under service conditions...actual car impacts that can go as high as 22 mph on National's impact test tract. ■ Net result? Better, more thoroughly proven products for railroad service. Remember, tomorrow is taking shape today—through National's R&D. Always specify National products for National's technical and engineering service automatically go with the order.

Other National R&D Developed Products



The new single-axle truck that will revolutionize unit train operations. Patented two-stage suspension provides excellent riding qualities under empty or loaded car conditions.

National Type F Interlocking Coupler. National Rotary Shank Type F Interlocking Coupler gives fast unloading of unit trains, has been service-proven for over 10 years.

National 3C Hydraulic Units for cushioned underframes. Fit wide tunnel with 20" travel (compatible with all car builder designs). Fit narrow sill with either 20" or 24" travel.

NATIONAL CASTINGS DIVISION
Midland-Ross Corporation

10600 QUINCY AVENUE • CLEVELAND, OHIO 44106

6007-A

THIS SPACE CONTRIBUTED BY THE PUBLISHER AS A PUBLIC SERVICE

A CANCER PATIENT needs weekly transportation to a treatment center. She turns to the American Cancer Society and is helped.

A PHYSICIAN must keep up with the fast developing facts in cancer control. He turns to his journals and the American Cancer Society professional publications and films for this information.

A MOTHER wants to know how to guard against cancer of the cervix. She turns to her physician and to the American Cancer Society for answers to her questions.

cancer! *where can you turn?*

A BUSINESSMAN wants to protect his employees. He turns to the American Cancer Society for life-saving pamphlets, films, danger signal posters and speakers.

A SCIENTIST needs funds to support his research on leukemia. He turns to the American Cancer Society which invests millions annually in cancer research.

The American Cancer Society is many things to many people—and is made up of many people—two million volunteer physicians, businessmen, union leaders, nurses, scientists, housewives, dedicated to one goal: saving lives from cancer. Through the Society's nationwide research, education and service programs, they hold out a lifeline to everyone threatened by cancer.

You, too, can turn to the Society. Call your local Unit for more information on what it can do for you—and, incidentally, what you can do for it.

CANCER'S SEVEN DANGER SIGNALS

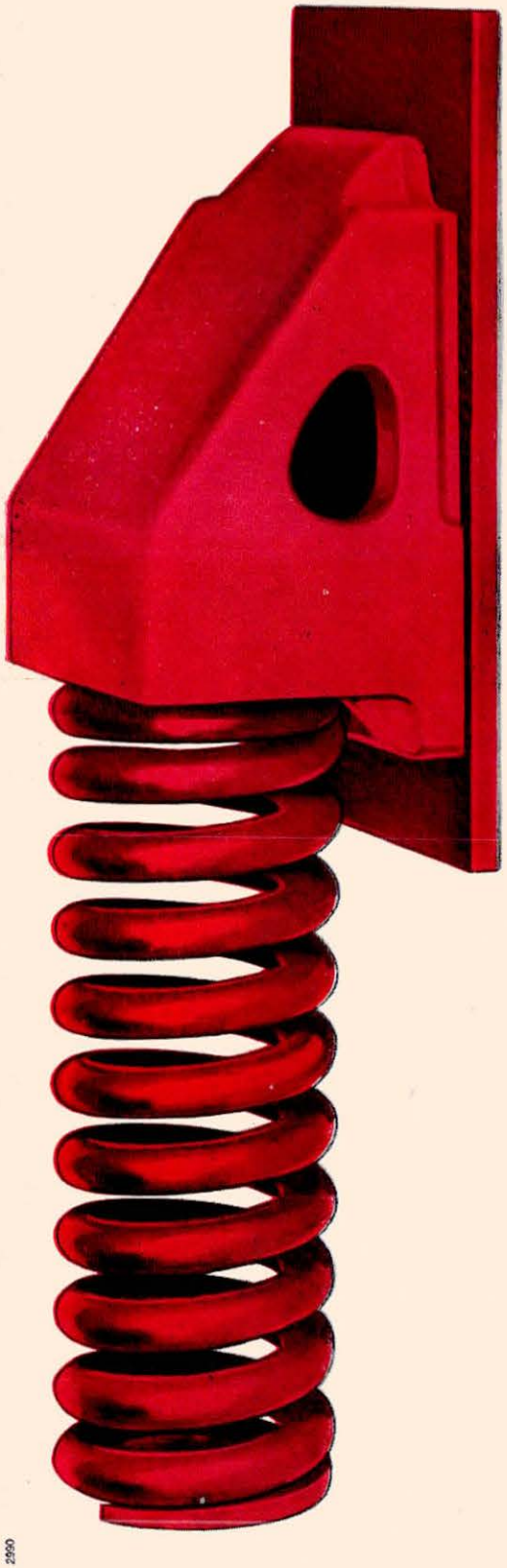
1. Unusual bleeding or discharge.
2. A lump or thickening in the breast or elsewhere.
3. A sore that does not heal.
4. Change in bowel or bladder habits.
5. Hoarseness or cough.
6. Indigestion or difficulty in swallowing.
7. Change in a wart or mole.

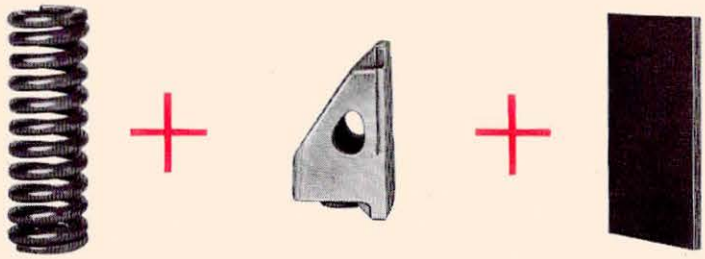
If your signal lasts longer than two weeks, go to your doctor to learn if it means cancer.

AMERICAN CANCER SOCIETY

SIMPLICITY

of design gives you important advantages all the way down the line





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STABILIZED TRUCKS

SUPERIOR PERFORMANCE

LONGER SERVICE LIFE

LOW COST MAINTENANCE

BARBER EXPERIENCE RESEARCH RESULTS

BARBER Standard CAR TRUCK COMPANY

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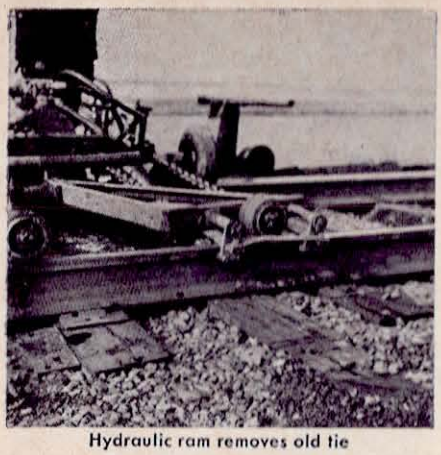
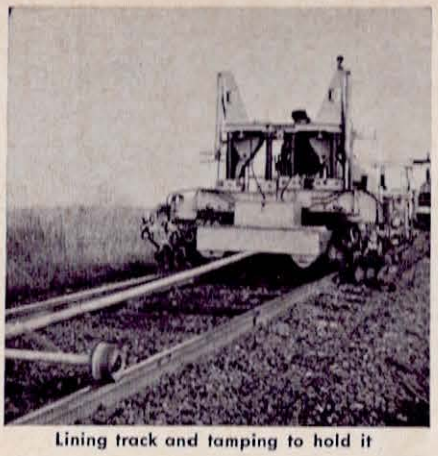
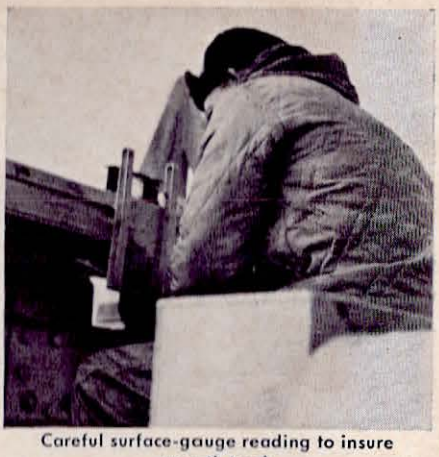


Hydraulic ram removes old tie

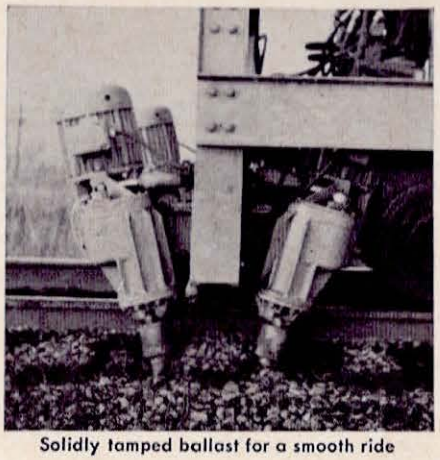


Lining track and tamping to hold it



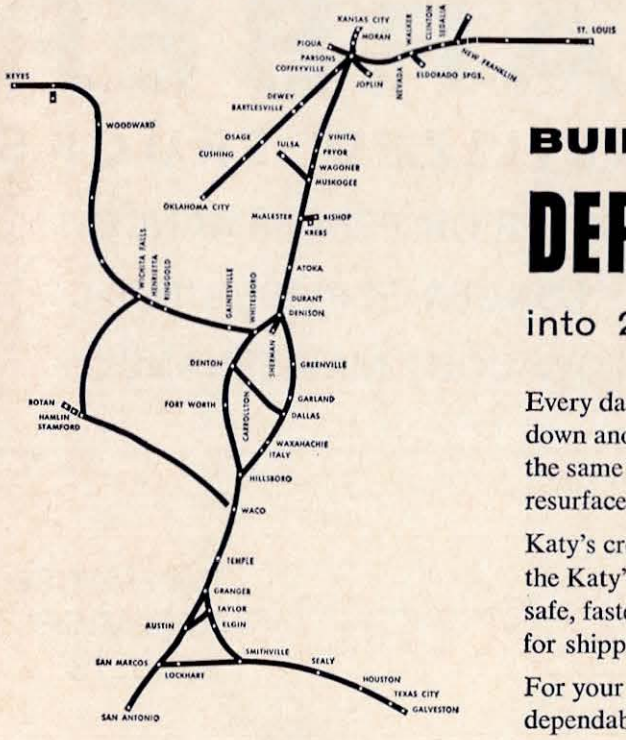
Careful surface-gauge reading to insure smooth track

A perfect bed for the new tie



Solidly tamped ballast for a smooth ride

Constant check on perfect track alignment



BUILDING MORE

DEPENDABLE SCHEDULES

into 2900 miles of KATY roadbed!

Every day, Katy's crews rebuild 8 to 10 miles. They are putting down another half-million new ties during 1966 after laying about the same number last year. The end result will be a completely resurfaced tied and ballasted roadbed.

Katy's crews are building more than a roadbed. They are building the Katy's dependability, higher than ever. New high speeds. New safe, faster schedules. Dependable connections. New satisfaction for shippers.

For your freight, dependability is what counts. We're building dependability, to make sure you can

COUNT ON KATY . . .

M-K-T KATY RAILROAD

The BIG change is to KATY

MISSOURI-KANSAS-TEXAS RAILROAD COMPANY

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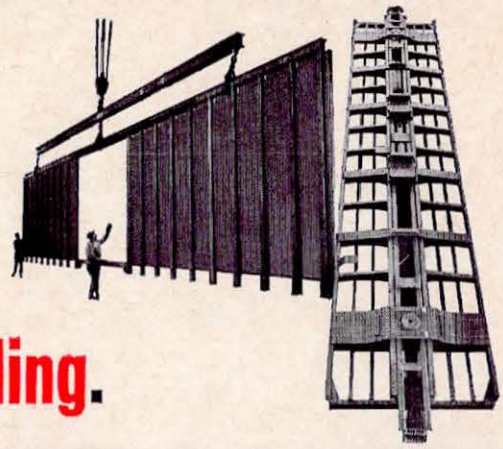
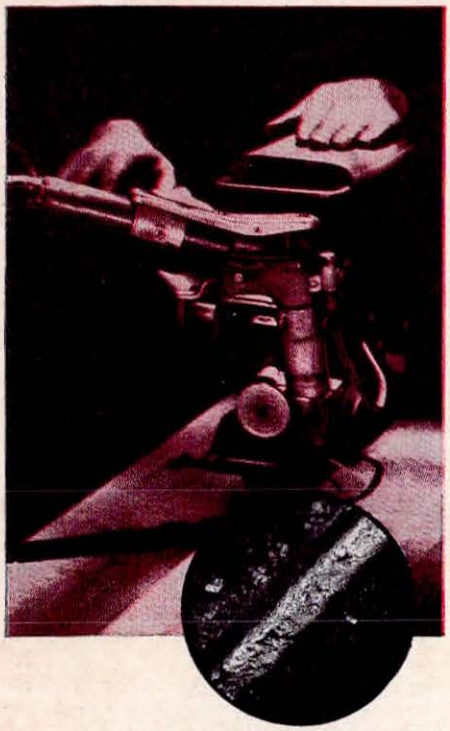
What makes Berwick's car components so solid?

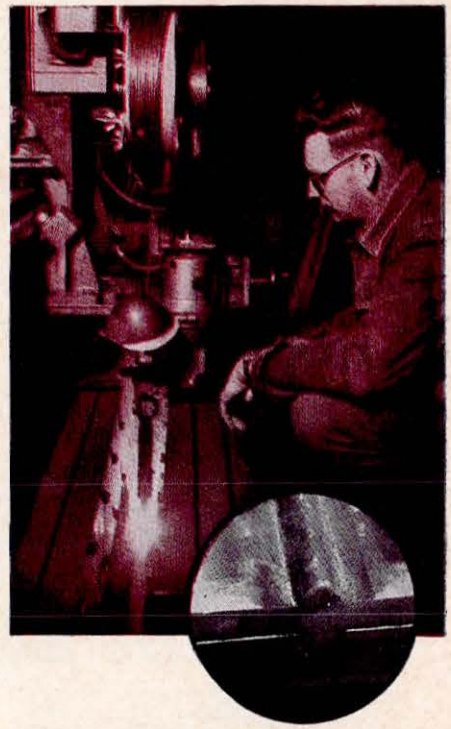


First of all . . . the welding.



Submerged arc welding with a semi-automatic unit gives 70% penetration specified by the buyer. A uniform weld with no undercut can be laid at the rate of 12″ per minute with no joint preparation. This job would be nearly impossible to do by hand without a lot of costly, time consuming preparation. Machines also do x-ray quality work.

Forged reinforcements are being welded to a center-plate using flux-cored electrode with continuous wire feed. With this equipment, Berwick's welders can apply a ½″ fillet weld in a single pass and make a more rigid center plate at the same time. Close-up shows practically no splatter. This welding method increased production 60% and savings are being passed on to the buyer.



CO_2 burn-through welding equipment was engineered for Berwick to weld car sides. A unique hold-down arrangement provides positive contact between post and skin the entire 10′ . . . an important factor for a good job. This method generates far less heat than the submerged arc . . . straighter sides are the result. Close-up shows uniform, clean weld pattern . . . no slag or splatter to clean up.

Berwick's old-style craftsmen have been building railroad equipment longer than anyone else in the country . . . since 1894. Armed with new techniques and equipment, they can deliver the kind of car components you need in less time than you think possible. How 'bout letting us bid on your next order?

Berwick Forge and Fabricating Corporation

Berwick, Pa. **Chicago office: 80 E. Jackson Blvd.**

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PEOPLE IN THE NEWS

ATLANTIC COAST LINE.—**R. E. Manning** appointed general foreign freight agent, Jacksonville, Fla.

CHESAPEAKE & OHIO—BALTIMORE & OHIO.—**J. Speed Gray,** assistant vice president, C&O, also named assistant vice president, B&O, Coal Traffic and Development, Cleveland. **George A. Sandmann,** assistant to vice president—coal traffic and development, appointed director of coal commercial planning for both roads, remaining at Cleveland. **Fred R. Toothman,** engineer of coal properties, C&O, Huntington, W. Va., named director of coal development for both C&O-B&O there. **H. P. Henshaw, Jr.,** coal traffic manager, C&O, Cleveland, appointed director of coal traffic, C&O there. **Ross Conlin,** director of sales, coal department, B&O, appointed director of coal traffic, B&O, remaining at Baltimore.

LeRoy Hurt, assistant comptroller, B&O, named assistant comptroller for C&O-B&O, Baltimore. **O. Charles Sherman,** assistant comptroller, C&O, also appointed assistant comptroller for C&O-B&O, Cleveland. **Ray J. Dullard,** auditor revenues, C&O, Cleveland, appointed auditor of revenues, C&O-B&O, Baltimore. **William E. Purdum** appointed staff officer, C&O-B&O, and will assist Mr. Hurt in direction of revenue accounting and freight claims work at Baltimore.

V. P. Gairoard, superintendent car service, B&O, appointed superintendent car service, B&O-C&O, Baltimore, with responsibility for car service, demurrage and car accounting activities.

Kenneth S. Cox, manager dining service, C&O, appointed superintendent of passenger food service, C&O-B&O, with headquarters remaining at Ashland, Ky.

George E. Dove, sales manager—national accounts, Trailer Service Department, C&O-B&O, Baltimore, appointed director of sales for trailer service (piggyback freight). **Walter N. Lesko,** district manager, Trailer Service Department, C&O, Chicago, appointed assistant director of sales, C&O, Baltimore.

J. W. Rach appointed manager contracts and **J. A. Smith,** assistant manager contracts, C&O-B&O, Baltimore.

R. W. Foster, assistant trainmaster, C&O, Saginaw, Mich., promoted to trainmaster there succeeding **R. C. Clarke,** transferred.

C. L. Goodman, assistant supervisor bridges and buildings, C&O, Cincinnati Division, Covington, Ky., promoted to supervisor bridges and buildings of that division, succeeding the late **W. R. Graham. M. E. Christy** replaces Mr. Goodman as assistant supervisor bridges and buildings.

John P. Charters appointed assistant to general manager, Chicago Terminals, C&O-B&O. Due to a printer's error in RA, March 7, p. 35, Mr. Charters' first name was incorrectly given as James.

DENVER & RIO GRANDE WESTERN.—**O. D. Teeter,** assistant freight traffic manager, Denver, Colo., retired Jan. 31, after 47 years of service. **F. D. Lucas,** general agent, San Jose, Calif., appointed traffic manager, Portland, Ore., succeeding **W. M. Kirkpatrick,** who retired Jan. 31, after 49 years of service. **J. W. Barge,** district freight and passenger agent, New Orleans, La., headquarters St. Louis, Mo., appointed general agent, **Reno,** Nev., succeeding **A. F. Holman,** who replaces Mr. Lucas at San Jose. **E. C. Nielsen** succeeds Mr. Barge. **E. J. Roth** named district freight and passenger agent, Salt Lake City, Utah. **D. P. Heiner** named general agent, Salt Lake City, succeeding **R. S. Lawrence,** who retired Jan. 31, after 42 years of service. **C. M. Haefner** and **R. L. Detwiler** appointed district freight and passenger agents at Los Angeles and Denver respectively. **W. L. McGaha** named district freight and passenger agent, Omaha, Neb., succeeding **O. F. Wagner,** who retired Feb. 28, after 27 years of service. **K. R. Jennings** named assistant to western traffic manager, San Francisco.

ERIE LACKAWANNA.—**Kenneth E. Pritchard** appointed assistant freight traffic manager, Cleveland, succeeding the late **Frank K. Corlett. Frank J. Kovarik,** general freight agent, Cleveland, appointed assistant freight traffic manager, New York, succeeding Mr. Pritchard.

William E. Flight, trainmaster, Hoboken, N.J., transferred to the Mahoning Division, Youngstown, Ohio, succeeding **Edward R. Hogan,** transferred to Elmira, N.Y.

LeRoy S. Evans, division storekeeper, Scranton, Pa., retired Feb. 28 after 48 years of service.

John G. Drake, terminal trainmaster, Secaucus, N. J., appointed assistant superintendent, New York Division, Hoboken, N. J.

FLORIDA EAST COAST.—**William A. Adams,** assistant manager—sales and service, Western District, Chicago, promoted to manager—sales and service of that district, succeeding **W. H. Guilfoy,** who retired March 1 after more than 47 years of service. **T. J. Algard** appointed district freight agent, Jacksonville. Abolished position of freight and passenger commercial agent, Jacksonville, formerly held by Mr. Algard.

ILLINOIS CENTRAL.—Titles of **Nicholas J. Andrews, Richard L. Marzullo,** and **Duane D. Stech,** personnel staff officers, changed as follows: Mr. Andrews, personnel officer-training and development; Mr. Marzullo, personnel officer-selection and placement; Mr. Stech, personnel officer-administration.

KANSAS CITY SOUTHERN.—**W. B. Turner** named chief special agent, Shreveport, La., to succeed **L. S. Dillahunty,** retired.

MILITARY TRAFFIC MANAGEMENT AND TERMINAL SERVICE.—**Roland L. Guyotte, Jr.,** director of Programs, Management & Systems, appointed executive assistant and senior transportation adviser to the commander of MTM&TS.

MISSOURI PACIFIC-TEXAS & PACIFIC.—**L. B. Dougherty** named assistant to traffic manager-central region, St. Louis. **G. W. Billmyer,** general agent, Oklahoma City, Okla., retired Feb. 28.

NATIONAL CAPITAL TRANSPORTATION AGENCY.—**Walter J. McCarter,** NCTA administrator, announced appointment of **Harry Weese** of Harry Weese & Associates, Chicago, as consulting architect for the forthcoming 25-mile $432 million surface and subway rapid transit system authorized by Congress in 1965 for the Washington, D. C., area. **John Rannells** named director of the newly formed Office of Architecture within the agency. Mr. Rannells has headed architectural and special projects in the agency since 1961. **Richard A. Good,** former chief of the Planning Branch, Federal Aviation Agency, will assist Mr. Rannells in the development of the rapid rail architectural design program.

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NEW HAVEN.—Richard Devlin appointed acting manager baggage, mail and express traffic, Boston, due to the illness of **William H. Gustafson,** manager, baggage, mail and express traffic. **Robert G. Cosgrove** named acting assistant manager, baggage, mail and express traffic.

NEW YORK CENTRAL.—William F. Kirk, assistant vice president—Flexi-Van services, New York, appointed to the new post of assistant vice president—mail, express and Flexi-Van services, effective April 1.

NORFOLK & WESTERN.—F. W. Anderson, district sales manager, Toledo, Ohio, appointed sales manager, Lima, Ohio, succeeding **C. A. Madigan,** transferred to Toledo. Mr. Madigan succeeds **L. J. Paternoster,** promoted. **John Fabris** replaces Mr. Anderson as district sales manager, Toledo.

PENNSYLVANIA.—William A. Mullen, assistant chief mechanical officer—car, **Baltimore & Ohio,** Baltimore, Md., appointed general superintendent—car equipment PRR, Philadelphia.

R. C. Ambelang, regional mechanical officer, Western Region, Chicago, appointed superintendent, Northern Division, Buffalo, NY., succeeding **David E. Pergrin,** named superintendent, Chesapeake Region, Baltimore. **P. F. Schwartz,** superintendent of transportation, office of general manager of transportation, Philadelphia, appointed assistant superintendent, Williamsport, Pa., succeeding **J. K. McConnell,** retired.

R. A. Shaw, trainmaster, Enola, Pa., transferred to Buffalo, succeeding **P. E. Ford,** named assistant superintendent of transportation, office of general manager of transportation, Philadelphia.

W. M. McCracken, division engineer, New York, named resident engineer, Baltimore, and is succeeded by **L. A. Pelton,** division engineer, Cleveland.

J. E. DeGrange, assistant manager, Truc-Train sales, Philadelphia, appointed to the new position of regional passenger agent, Central Region, Pittsburgh. **Carl S. Herr,** general passenger agent, Pittsburgh, is on terminal leave until his retirement on April 1, after 45 years with the PRR.

SEABOARD.—C. B. Corey, assistant general freight agent, Richmond, Va., appointed general freight agent—commerce. **H. T. Harrell,** assistant general freight agent, Richmond, promoted to general freight agent—divisions, succeeding **B. L. Odend'hal,** who retired Feb. 28, after more than 39 years with the Seaboard. **W. F. DeLoatch, Jr.,** appointed assistant general freight agent—divisions.

Alan L. Fowler named industrial forester, Richmond.

SOUTHERN.—Has made several appointments in its Rail-Highway Services department. **James C. Chandler,** district sales manager, Chattanooga, Tenn., transferred to Atlanta, Ga. **Floyd M. Willis,** district manager, Greensboro, N. C., transferred to Chattanooga. **Norman E. Poore,** district manager, Knoxville, Tenn., transferred to Charlotte, N. C. **Walter B. Scoggins,** district manager, Charlotte, transferred to Knoxville.

SOUTHERN PACIFIC.—Alfred C. Jacobsen, assistant signal engineer, San Francisco, named principal assistant signal engineer there, to succeed **Arlo C. Krout,** who retired Feb. 28 after 43 years of service. **Rudolph C. Nagel,** office engineer (signal), San Francisco, replaces Mr. Jacobsen, and in turn is succeeded by **Donald V. Carson. William R. Paxton** named assistant engineering coordinator, San Francisco.

WESTERN PACIFIC. — Katherine M. Griffin named attorney.

Supply Trade

Lawrence G. Blackmon, general manager, **National Castings Division, Midland-Ross Corp.,** Cleveland, Ohio, has been elected a vice president. He will continue in charge of the National Castings operations.

James B. Swindell, central region manager **Electro-Motive Division of General Motors,** LaGrange, Ill., has been promoted to assistant general sales manager in charge of domestic locomotive sales. **Harold P. Gustavson,** district sales manager, central region, succeeds Mr. Swindell.

William E. Berglind has been appointed industrial equipment advertising manager, **National Cylinder Gas** division of **Chemetron Corp.,** Chicago. Mr. Berglind is responsible for promotion of the NCG division's welding, flame cutting, nitrogen refrigeration and railroad equipment.

A. C. Grant, formerly vice president—sales of **Buck Equipment,** has joined the sales staff of **Whitehead & Kales Co.,** Detroit. Mr. Grant has established a Cincinnati, Ohio, office.

Harry Shapiro has been named president and general manager of the **Strick Finance Co.,** newly formed subsidiary of **Strick Corp.** The new finance company, formed to offer Strick customers complete service in the purchase of transportation equipment, will have its central headquarters at Fairless Hills, Pa.

American Brake Shoe Co. has licensed

Lawrence G. Blackmon
National Castings

James B. Swindell
EMD

Rheinstahl Huttenwerke of Essen, West Germany, to produce cast steel wheels for railway service and sell them in certain European countries.

Clarence Abitz has been elected president, director and senior operations officer of the newly reorganized **Union Corp.,** which has acquired the plant and inventory of **Specialty Steel Products Co.** of Verona, Pa. Mr. Abitz was formerly president of **Union Spring & Manufacturing Co.,** now a subsidiary of the Union Corp. **John S. Moeller,** vice president, director and treasurer, Union Corp., also has been elected president of Union Spring and **Union Specialty Steel Casting Corp.** (successor to Specialty Steel Products Co.). **Don Kennedy,** formerly general manager, Union Spring's Steel Castings Division, has been elected vice president and general manager, Union Specialty. **Ray Beacha,** former chief engineer and manager of spring sales, Union Spring, has been elected vice president—sales and engineering, spring and pressed steel products of that company. **Richard Lindley** has been elected vice president, Union Spring, with responsibility for operations of the New Kensington, Pa., and Chillicothe, Ohio, plants.

James E. Rogers has been named eastern sales manager, Power—Industrial Division, **Kerite Co.,** New York.

Millard A. Pinney has been named head of the new testing facilities, **Keystone Railway Equipment Co.,** at Camp Hill, Pa. Prior to joining Keystone, Mr. Pinney was engineer of tests, **Pennsylvania.**

John W. Schnaitman appointed sales manager, **Railway Automated Machinery Co.,** Chicago, subsidiary of Nationwide Leasing Co.

On March 17, **Vapor Corp.,** Chicago, was merged into **American Meter Co.,** Philadel-

BAD ORDER CAR RECORDER

Another new recorder by Impact Register Co.

The pioneer in the manufacturing of impact recorders now presents a unit which accurately signals an excessive impact received by long travel draft gear cars. A bright red signal indicates that the draft gear is not functioning properly.

The use of this recorder means reduced operating costs, less lading damage and savings on maintenance. Completely weatherproof and designed for permanent mounting on the car. Write or wire *now* for complete details.

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phia, and its name changed to **AMERCON CORP.**, with executive offices at Philadelphia. **A. D. Bruce,** chairman of the board of Vapor, will serve as chairman of AMERCON. **William G. Hamilton, Jr.,** president of American Meter, will serve as president and chief executive officer. Concurrent with the merger, 151,792 shares of Vapor common stock have been purchased and retired. All the stock of Vapor Heating Limited not previously owned by Vapor has been purchased.

Unity Railway Supply Co., Inc., of Chicago recently acquired the **Security Railway Products Co.** of that city in order to make available to the railroad industry a complete package line of products to comply with the new regulation by the Association of American Railroads. **Richard A. Pinney,** president of Unity, remains in that capacity under the new corporate structure. **Robert A. MacDonnell** will be in charge of engineering and production.

The **Flintkote Co.** has appointed **J. L. McLean & Son** Paoli, Pa., as manufacturers sales representatives for railway products.

Jack W. Miller, Jr., has joined **Brenco, Incorporated,** Petersburg, Va., as a sales engineer. He was formerly with Humble Oil Co.

Robert M. Raymond has been appointed to the newly created position of assistant to president, **Evans Products Co.,** Portland, Ore. He was formerly a bank president in San Diego.

Richard W. Gear and **James A. Huggins** have been appointed railroad sales representatives, **New Departure—Hyatt Bearings Division, General Motors Corp.** at St. Louis, Mo., and Washington, D.C., respectively. Both men were formerly in New Departure-Hyatt industrial bearing sales.

Pullman Inc. has purchased the stock of **Standard Steel Works, Inc.,** North Kansas City, Mo., and will operate it as a wholly-owned subsidiary in conjunction with the **Trailmobile Division.**

R. F. Corley, specialist—transportation and packaged drive product planning, Industrial Apparatus Department, **Canadian General Electric Co. Ltd.,** Peterborough, Ont., Can., has been appointed manager—transportation equipment engineering, sales and planning there. He will be responsible for the marketing and engineering of products for railroads, rapid transit and industry.

John Holden has joined **FMC Corp.,** South Charleston, W.Va., and will be in charge of product design engineering and quality control. Mr. Holden was formerly project engineer, **Evans Products Co.,** where he was responsible for freight car design.

R. V. Barrett, president of **Dominion Engineering Works Limited,** Lachine, Que., Canada, has signed an agreement with the **Budd Co.,** Philadelphia, whereby Dominion will sell and service the Budd industrial disc brake to all fields of Canadian industry.

John A. Binsbacher has been named product engineer for the box cars designed and built by **American Car & Foundry division of ACF Industries, Inc.** He has been with ACF since 1962 and had been a senior project engineer.

George M. Elsey has been appointed assistant to the president of **Pullman Incorporated** at Washington, D.C. Mr. Elsey will be concerned with the transportation divisions—Pullman-Standard, Trailmobile and Transport Leasing, as well as assisting in certain phases of corporate planning.

Keystone Railway Equipment Co. Chicago, has acquired for cash, all the plant, equipment and inventory in Decatur, Ill., of **Superior Welding Co.** and its subsidiaries plus a 50% interest in **Union Iron Works.** Present management and personnel of Superior and subsidiaries will be retained and the company will function as a wholly-owned subsidiary.

Paul Dashine has been elected president of the **Okonite Co.,** Passaic, N.J., succeeding **R. S. Keefer,** who has retired but will continue to serve as a consultant to Okonite. Okonite has been a subsidiary of **Ling-Temco-Vought, Inc.,** since Jan. 10 when it was acquired from Kennecott Copper Corp. in a $30 million cash transaction. Mr. Dashine was formerly manager of technical services for Kennecott and president of the **Nevada Northern,** a wholly-owned Kennecott subsidiary.

William H. Oler, manager—marketing planning and services, Okonite, has been elected vice president—marketing.

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Circle 63 on reader service card

OBITUARY

Kenneth H. Carpenter, 67, who retired in Feb. 1962 as superintendent car department, **Erie Lackawanna,** Cleveland, died March 16.

George J. Curda, foreign freight agent, **Burlington,** New York, died March 20.

E. S. Jackson, 82, retired assistant to comptroller, **New York Central,** died March 16 in Buffalo General Hospital, Buffalo, N. Y.

There are two reasons why you never have to add hydraulic fluid to a FreightMaster.

1. It never needs it.

2. There's no hole to pour it in.

Every FreightMaster hydraulic cushioning unit is filled with hydraulic fluid at the factory, then sealed. Tight. Shut. Permanently. No gauges, no dipsticks, no filler necks, no nothing.

You never add hydraulic fluid. Ever. Out of nearly 40,000 FreightMaster units in service, hydraulic maintenance problems have been negligible.

The reason is our unique concept of sealing pressures within a hydraulic cushioning system. The FreightMaster provides an extremely high pressure hydraulic system to absorb heavy forces of impact and pull-out, yet it ingeniously *lowers* these pressures before they can reach the hydraulic seals. Thus the seals are subjected to relatively low, easily contained pressures.

A bother-free hydraulic system is just one of FreightMaster's many advantages.

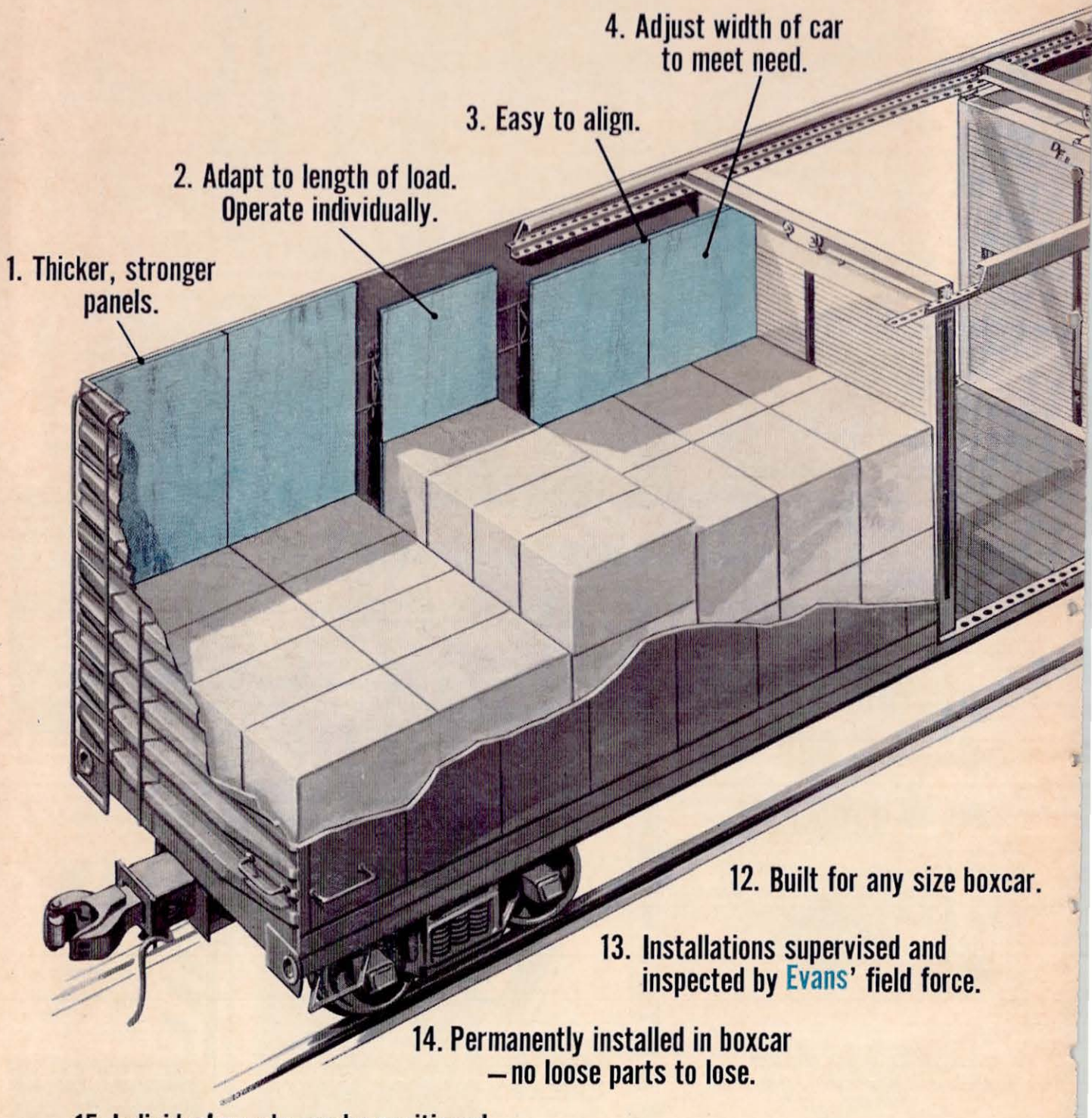
Added up they mean protection for your cargoes *and car structures*, lighter cars for more revenue loading capacity, and no time lost chasing after leaky, long stroke cushioning systems on cars that should be out making money for your road instead. Ask a FreightMaster man. FreightMaster Division of Halliburton Company, 424 W. Vickery Boulevard, Fort Worth, Texas 76101 – Tel: 817 ED 5-3046. In Canada, contact Hawker Siddeley Canada Ltd., Montreal.

FreightMaster®
A DIVISION OF HALLIBURTON COMPANY

END-OF-CAR HIGH CAPACITY
HYDRAULIC CUSHIONING SYSTEMS

Circle 9 on reader service card

15 REASONS WHY EVANS SIDE FILLERS



1. Thicker, stronger panels.
2. Adapt to length of load. Operate individually.
3. Easy to align.
4. Adjust width of car to meet need.
5. Easy to operate.
12. Built for any size boxcar.
13. Installations supervised and inspected by Evans' field force.
14. Permanently installed in boxcar —no loose parts to lose.
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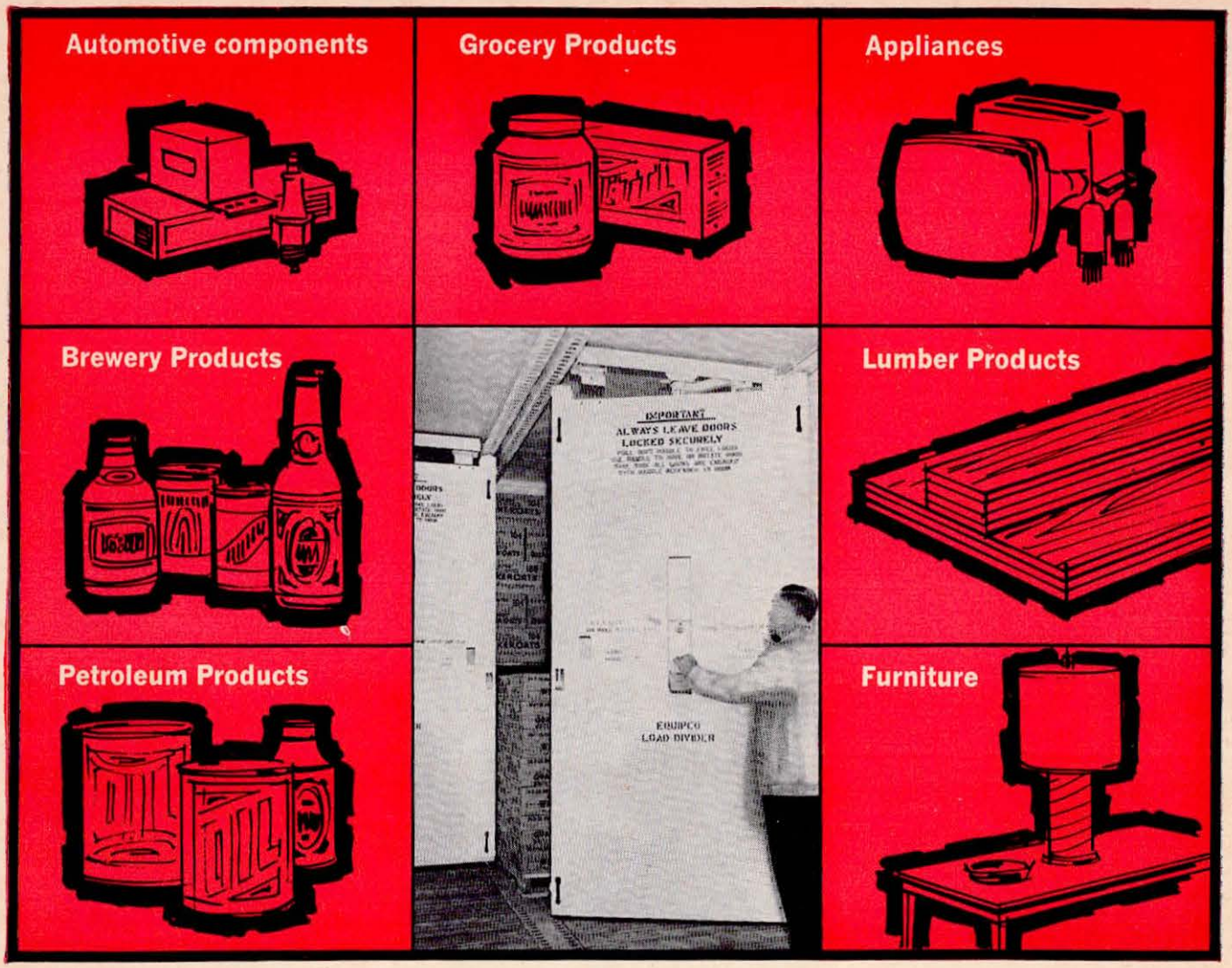

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The damage control problems faced by a shipper of frozen peas will usually be different from those faced by a TV manufacturer. Both may benefit from movable bulkhead equipment . . . but not necessarily the *same* equipment.

As manufacturer of the industry's most adaptable line of damage control products, Equipco makes a specialty of tailoring Load Divider equipment to meet the specific requirements of specific shippers and industries.

Through exacting work with individual shippers, Equipco has already developed Load Divider adaptations to meet the special damage control/material handling needs of the following industries: (1) grocery products, (2) automotive components, (3) appliances, (4) brewery products, (5) lumber, (6) petroleum products, and (7) furniture.

Shown here is special Equipco Load Divider equipment in high cube car for shipping automotive parts. This design, too, was pioneered by Equipco. It offers the distinct advantage of automatic locking.

If you are in any of these 7 industries, you can *immediately* benefit from the research and development work already completed by Equipco. If you are in a different industry, then Equipco engineers will be happy to work with you directly in pioneering new and better damage control methods for your particular type of products.

In either case, the first step is to contact Equipco . . . where better cars begin for better shippers (like you).

Equipco

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LETTERS FROM READERS

CIT League resolution

Toronto, Canada

To the Editor:

For the period February 22nd to February 24th inclusive, the Canadian Industrial Traffic League conducted their Fiftieth Annual Meeting at the Royal York Hotel in Toronto, Ontario.

Towards the close of this meeting the following resolution was passed unanimously by all members of the league in attendance:

WHEREAS, The Publishers of Railway Age have consistently given support to the principals that we in the Canadian Industrial Traffic League promote.

AND WHEREAS, For many years Railway Age has generously published the happenings at our Annual Meeting as reported by Mr. Gardner C. Hudson

AND WHEREAS, In Railway Age issue of January 31, 1966, the publishers have given special recognition to the past work and future objectives of the Canadian Industrial Traffic League at this important milestone in our history as we celebrate our Golden Anniversary.

THEREFORE BE IT RESOLVED THAT, We record our appreciation at this meeting and that a suitable confirming letter be addressed to the publishers of Railway Age by our President.

I also wish to express my own personal appreciation for the special issue of Railway Age that your Mr. Gardner Hudson went to such lengths to prepare.

V. G. Stroud
President
Canadian Industrial Traffic League

Who shot the 'Lark?'

Arcadia, Calif.

To the Editor:

Airline chiefs and their accomplices in federal airline coddling agencies and hoary railroad strangling commissions finally bagged the "Lark," a fine Los Angeles to San Francisco night train since 1910.

It took several decades and all the shabby tricks of one-sided subsidizing vs. taxing and over-regulating, called for by the chaotic insanity of government transportation policy, to bring the "Lark" down.

It was a perfectly legal but reprehensible display of poor sportsmanship, matched only by the arrow killing of a tame deer on the Mount Wilson Hotel grounds.

It was totally unworthy of "Those Magnificent Men in Their Flying Machines."

Southern Pacific Company need not apologize that its "Lark" can't fly. No subsidized vulture can ever replace a fine train. The hypersonic super-jet simply made leisurely travel obsolete. There is no freedom of choice when rail fares must cover discriminatory taxes plus regulatory overhead, while unsuspecting earthbound taxpayers contribute a large part of every air fare in devious subsidies and tax-free public airports.

K. Fritz Schumacher

READING RAILROAD
PHILADELPHIA, PA.
19107

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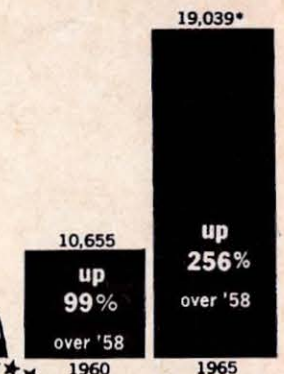
"Piggyback leaps ahead..."
... Railway Age

... and GENERAL TRANSPORT EQUIPMENT CO., Inc. keeps well-abreast with SHIPPING TRENDS!

Fact is, we are geared to keep somewhat AHEAD of 'Supply-and-Demand' in LEASING ... all types and sizes of Transportation EQUIPMENT, such as CARGO TRAILERS, TRUCKS, TRACTORS, CONTAINERS, and *Temp-Control'd *REFRIGERATED TRAILERS ... (designed with PIGGYBACK in mind ..)



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PIGGYBACK
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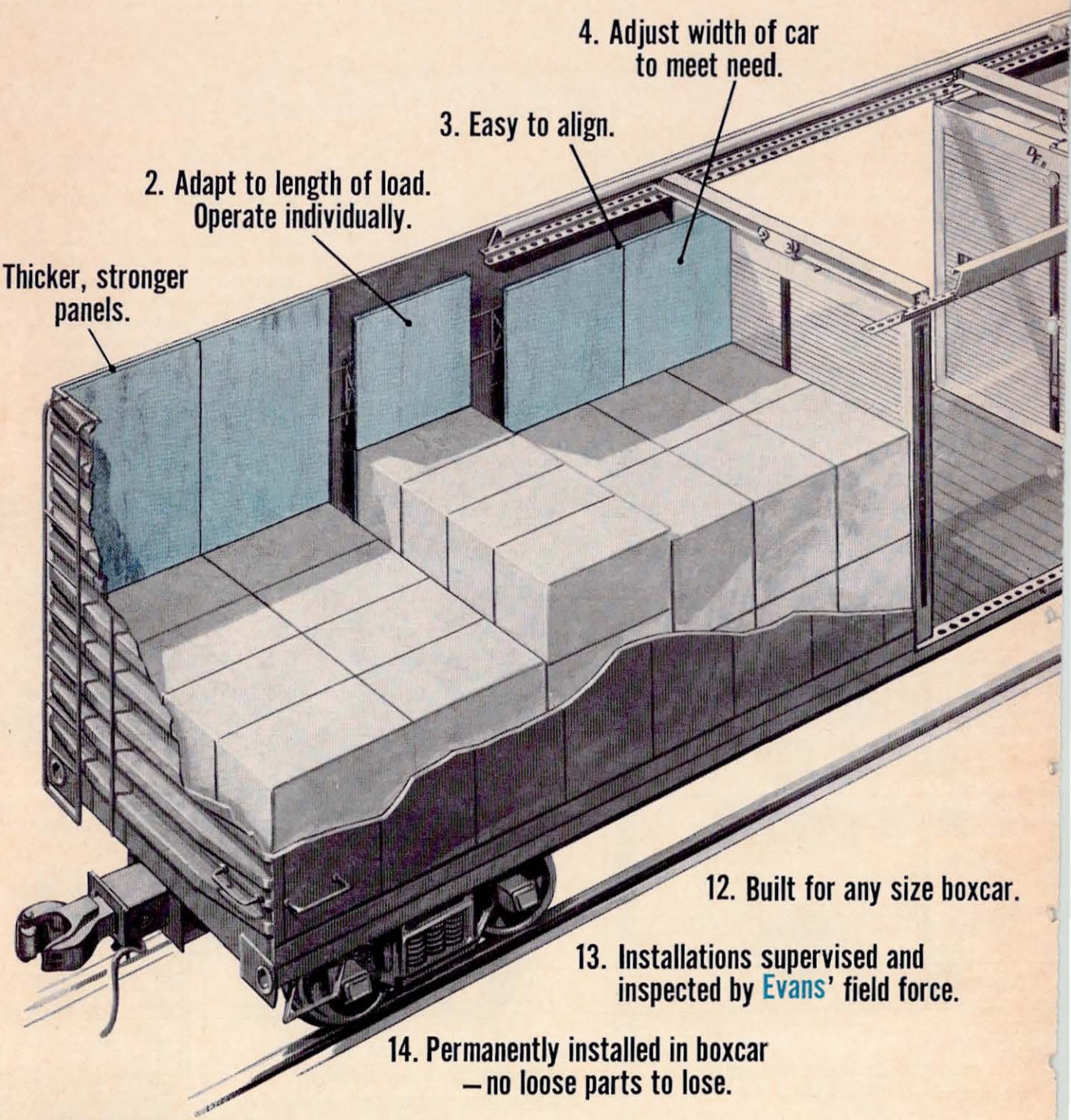
LEASING ENGINEERS
SINCE 1919

A Subsidiary of Consolidated Leasing Corporation of America

Circle 57 on reader service car

15 REASONS WHY EVANS SIDE FILLERS

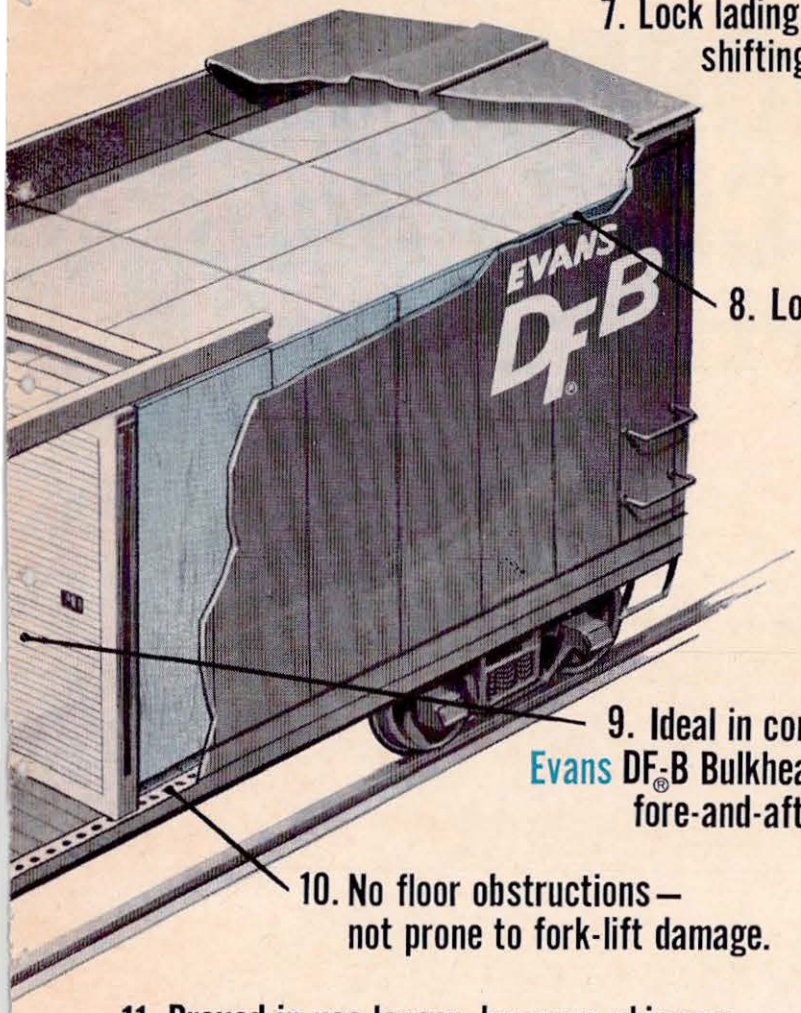


1. Thicker, stronger panels.
2. Adapt to length of load. Operate individually.
3. Easy to align.
4. Adjust width of car to meet need.
5. Easy to operate.
12. Built for any size boxcar.
13. Installations supervised and inspected by Evans' field force.
14. Permanently installed in boxcar — no loose parts to lose.
15. Individual panels can be positioned after load is in place, and retracted prior to unloading.

OUTSELL ALL OTHERS 6 TO 1

6. No dunnage needed.

7. Lock lading . . . prevent shifting of load.



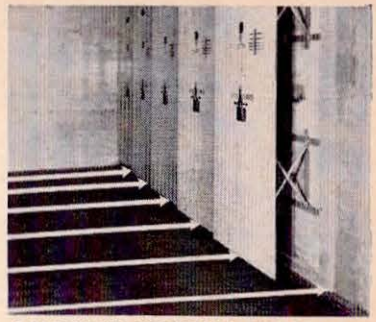
8. Lock flush against wall when not needed.

Shown at right are some of Evans side-fillers to meet a variety of shipper needs.

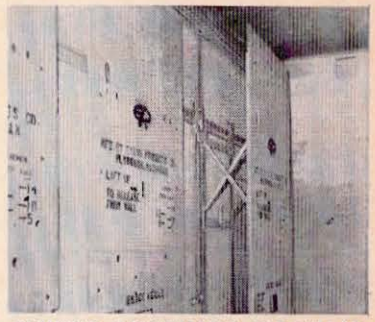
9. Ideal in combination with Evans DF-B Bulkheads which prevent fore-and-aft movement.

10. No floor obstructions — not prone to fork-lift damage.

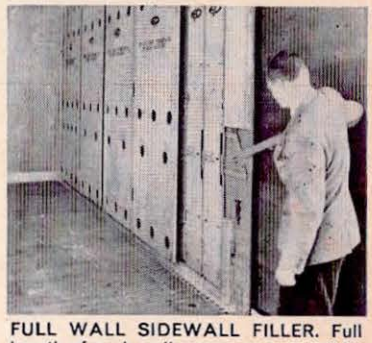
11. Proved in use longer, by more shippers, on more railroads, than any other make.



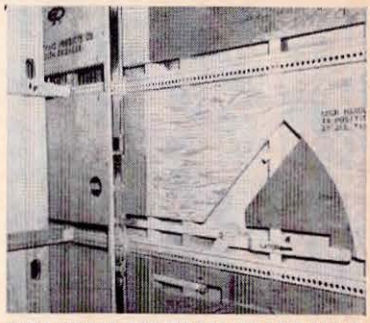
6-POSITION SIDEWALL FILLER grips load in 6 different positions as shown above. No obstructions at floor level.



SLIDING 6-POSITION SIDEWALL FILLER. Each panel slides fore and aft to accommodate odd size pallets.



FULL WALL SIDEWALL FILLER. Full length of each wall moves as one unit by one lever. Load first, position filler after end of car is loaded.



FULL WALL SIDEWALL FILLER PLUS DF-2 CROSS MEMBERS for faster, easier intra-city loading.

PORTABLE SIDE FILLER to prevent side shift in doorway area.

ANOTHER EXAMPLE OF EVANS LEADERSHIP

Evans Sidewall Fillers lead the industry in providing positive, money-saving protection of packaged and unitized loads. They maintain stability and prevent damage due to side-sway. They maintain pallet pattern and prevent loads from collapsing in side voids. By keeping load pattern stable, they assure easy unloading.

THIS IS EVANS FULL CIRCLE OF SERVICE FOR RAILROADS AND SHIPPERS

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NEW

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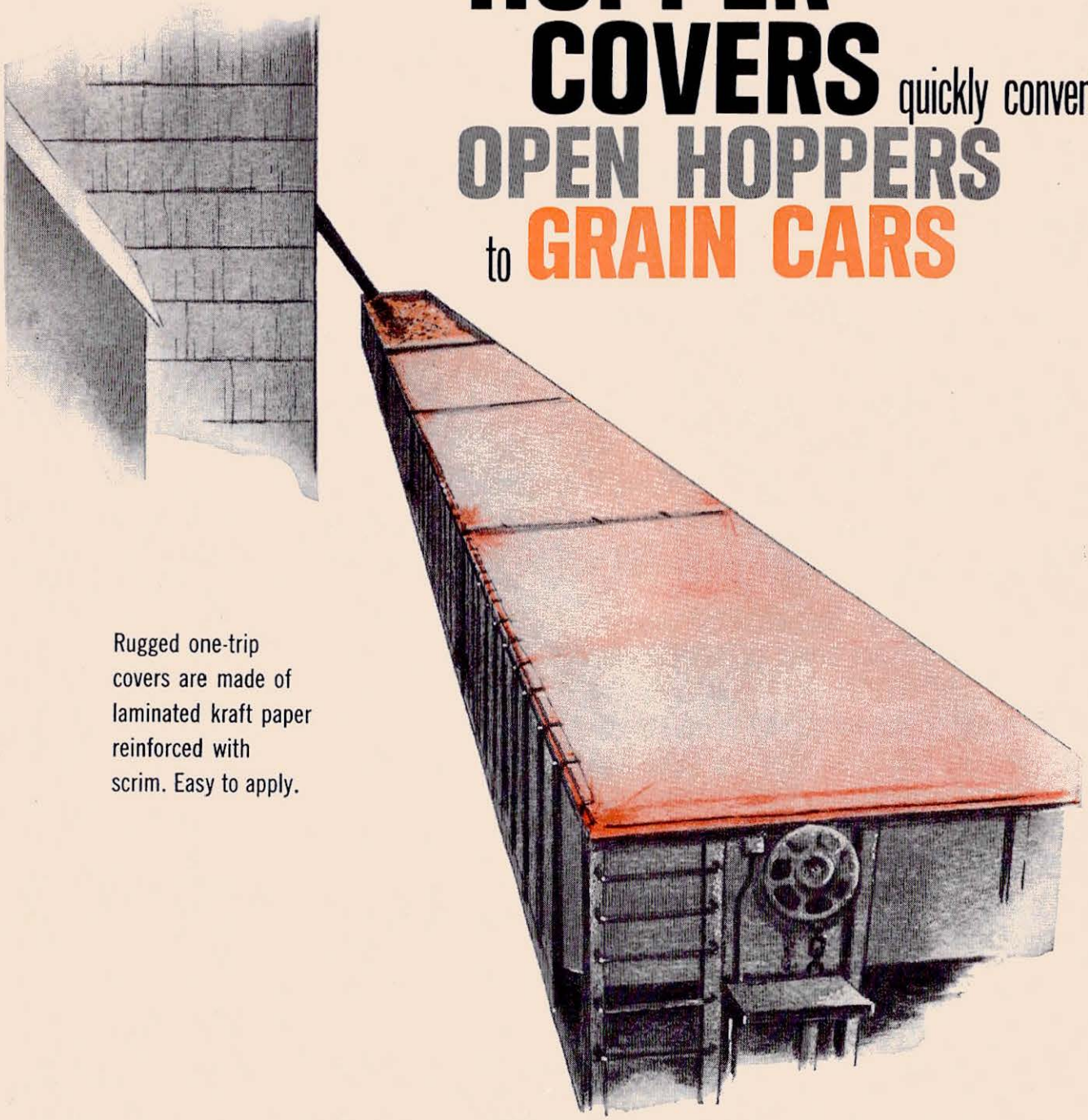
HOPPER COVERS quickly convert OPEN HOPPERS to GRAIN CARS



Rugged one-trip covers are made of laminated kraft paper reinforced with scrim. Easy to apply.

For further information write or phone:

INTERNATIONAL-STANLEY CORPORATION

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MARKET OUTLOOK

Carloadings

Loadings of revenue freight in the week ended March 19 totaled 572,573 cars, the Association of American Railroads announced on Mar. 24. This was an increase of 14,973 cars, or 2.7%, compared with the previous week; an increase of 28,997 cars, or 5.3%, compared with the corresponding week last year; and an increase of 48,424 cars, or 9.2%, compared with the equivalent 1964 week. Ton-miles generated by carloadings in the week ended March 24 are estimated at 14.4 billion, an increase of 12.3% above the corresponding week of 1965, and 18.1% above the 1964 week.

REVENUE FREIGHT CARLOADINGS
For the week ended Saturday, Mar. 19

District	1966	1965	1964
Eastern, including Allegheny and Pocahontas ..	234,968	228,120	212,098
Southern	120,165	114,425	111,024
Total Eastern and Southern Districts	355,133	342,545	323,122
Northwestern .	61,402	55,831	56,519
Central Western	114,745	106,806	106,806
Southwestern .	41,293	38,394	37,702
Total Western Districts	217,440	201,031	201,027
Total All Roads	572,573	543,576	524,149
Commodities:			
Grain and Grain products	55,303	49,393	46,846
Livestock	1,773	2,042	2,626
Coal	115,282	101,189	97,505
Coke	8,980	8,582	7,099
Forest Products	39,783	37,351	38,759
Ore	19,902	18,829	17,574
Merchandise l.c.l.	6,725	10,113	13,500
Miscellaneous .	324,825	316,077	300,240
March 19	572,573	543,576	524,149
March 12	557,600	548,736	509,057
March 5	544,639	531,658	506,280
Feb. 26	535,979	504,689	518,408
Feb. 19	537,702	529,594	502,601
Cumulative total, 11 weeks ...	5,873,268	5,786,018	5,685,480
Estimated revenue ton-miles (billions) 11 weeks ...	148.1	137.2	134.9

PIGGYBACK CARLOADINGS.—U.S. piggyback loadings for the week ended Mar. 12 totaled 22,361 cars, carrying 37,155 trailers, compared with 20,293 cars, carrying 32,205 trailers, in the corresponding 1965 week. Loadings for 1966 up to Mar. 12 totaled 205,322 cars, carrying 337,981 trailers, compared with 185,-069 cars, carrying 299,588 trailers, in the corresponding period of 1965.

IN CANADA — Carloadings for the seven-day period ended March 7 totaled 76,419 cars, compared with 77,979 for the previous seven-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada		
March 7, 1966.....	76,419	26,712
March 7, 1965.....	70,253	26,443
Cumulative Totals		
March 7, 1966.....	673,930	235,794
March 7, 1965.....	652,106	240,238

FREIGHT-TRAIN CARS

► *Katy.*—Directors approved a freight-car program covering 3,600 units. Under 15-year lease, Katy will acquire 600 100-ton hopper cars from Gunderson Engineering Division of FMC; 600 50½-ft, 70-ton box cars and 200 60½-ft, 70-ton box cars, all equipped with cushion underframe, from Evans Products. Subject to arrangement of financing through long-term leases, the road will also acquire 500 100-ton covered hopper cars for grain movement; 100 100-ton covered hoppers for cement service; 200 65-ft mill-type gondolas; 100 52½-ft high-side gondolas; 31 Airslide covered hopper cars; 19 box cars equipped for specially assigned service; 50 60-ft, 70-ton flat cars; 100 60-ft, 70-ton bulkhead flat cars; and 100 100-ton ballast cars. In addition, Katy plans a program covering sale, rebuilding and lease-back of 800 40½-ft box cars and 200 50-ft gondolas.

LOCOMOTIVES

► *Katy.*—Directors approved acquisition of 12 3,000-hp GP40 diesel-electric units from EMD.

NEW FACILITIES

► *Bay Area Rapid Transit District.*—Bethlehem Steel Corp. has been awarded a $20 million contract to construct the steel tube sections and ventilation caisson for the new rapid transit system that will run under San Francisco Bay between Oakland and San Francisco. Some 45,000 tons of steel will be used in the fabrication work. Bethlehem is a material supplier to Trans-Bay Constructors, a joint venture of several contractors, which has been awarded the general contract for the 3.7-mile tube on its bid of $89.9 million.

► *Louisville & Nashville.*—TVA dam construction near Shellmound, Tenn., will require relocation of main-track line at a cost of $715,223. Work is now in progress and will be completed during 1967. Parts of the project will be contracted and the rest will be handled by company forces. TVA will contribute to the financing. In another major project, AFE of $1,403,855 has been granted for a CTC installation between DeCoursey and Patio, Ky. Work will begin after ICC approval of L&N proposals is received.

► *New York Central.*—Ordered 11 hotbox detectors from General Railway Signal Co. for installation at various points along their main line.

► *Northern Pacific.*—Ordered a 10-station microwave system from Collins Radio Co. to be installed from St. Paul, Minn. to Fargo, N.D., 246 miles. Type MW-308D equipment is being used which is solid-state except for the transmitter klystron. Initial capacity of the system will be 30 voice channels, but can be expanded to 600 voice channels. The microwave equipment will operate on 24-volts DC. Space diversity will be used with 1-watt remodulating repeaters. The system will be in service late this year.

► *Toronto Transit Commission*—Is seeking bids on manufacture, supply and installation of block signaling and interlocking equipment for the east and west extensions to the Bloor-Danforth subway. Tender deadline is May 2.

YOU OUGHT TO KNOW

Track-laying this summer. The first track should go down in July on the Alberta Resources Railway which is being built by Canadian National with provincial financing. Grading has proceeded through winter on the first 60 miles of the 111-mile route which branches northwest from CN's main line at Solomon, Alta., about 180 miles west of Edmonton. The construction tempo will increase as weather moderates and contracts are let for the remainder of the line. While the present project is expected to reach major coal and gypsum deposits in the muskeg-studded wilderness of northwestern Alberta, the provincial government sees potential for further resources development if the line is eventually extended another 150 miles to Grande Prairie.

CN sets freight records: New daily and weekly records for freight traffic were established in February by the Canadian National. The high was recorded in the week of Feb. 21-27, when the company racked up 2,197,000,000 gross ton miles. The figure topped two other record weeks set earlier in the month. A new record for a single day was made Feb. 5 when CN moved nearly 365 million gross ton miles, bettering the previous high of 338 million set Nov. 5, 1965. Grain shipments were the largest single factor responsible for the increased traffic, but potash movements were also up, and a truck strike in Ontario had some effect.

Long Island's bargain rates: The Long Island says it plans to try a family plan that will "out-family all family plans" for rail passenger travel. On weekends in April and May it proposes to charge a flat $3.45 for an entire family—regardless of size—for round-trip travel from points on Long Island to New York City. The only restriction is that the ticket purchaser certify to the number of children making the trip and that they're all members of the immediate family.

Railroad safety record: No passengers were killed in train or train service accidents in January, the Bureau of Railroad Safety and Service of the Interstate Commerce Commission reports. A total of 117 were injured in both types of accidents. Ten employees on duty were killed in January of this year, compared to 18 killed in the corresponding month of 1965. Injuries for employees totaled 1,551 in January 1966, while 1,548 were hurt in January 1965.

NITL anxious over car shortage: The continuing freight car shortage—which, in the Pacific Northwest has been described as having reached "emergency" proportions—is of growing concern to the National Industrial Traffic League. NITL President C. H. Wager has sent a letter to AAR President Daniel P. Loomis asking clarification of the confusing car supply situation. "The League is now at the crossroads and must recommend to its members some corrective measures to combat the freight car shortages. . . The response of the Association of American Railroads may very well determine whether the League should continue its present policy calling for voluntary cooperation among railroads, or conclude this approach is ineffective and urge greater governmental participation or authority to cope with the serious freight car shortage."

Railroad Conference to talk transit: The Railroad Conference, sponsored annually by the American Society of Mechanical Engineers and the Institute of Electrical and Electronic Engineers, will be held in San Francisco on May 4, 5 and 6. While the emphasis of this year's Conference will be on urban rapid transit, some sessions will deal with general railway topics. The 1966 Railroad Conference is scheduled concurrently with concluding sessions of the National Transportation Symposium which has been organized by ASME, IEEE and the American Society of Civil Engineers.

Truck tonnage: Intercity truck tonnage in the week ended March 12 was 0.8% below that of the previous week and 2.6% ahead of the volume in the corresponding week of 1965, according to American Trucking Associations.

Current statistics

Net Income	
12 mos., 1965	$815,000,000
12 mos., 1964	694,000,000
Carloadings, revenue freight	
11 wks., 1966	5,873,268
11 wks., 1965	5,786,018
Freight cars on order	
Feb. 1, 1966	45,754
Feb. 1, 1965	36,355
Freight cars delivered	
1 mo., 1966	7,725
1 mo., 1965	6,130
Serviceable cars	
Feb. 1, 1966	1,400,413
Feb. 1, 1965	1,396,720

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Unbeatable Combination!

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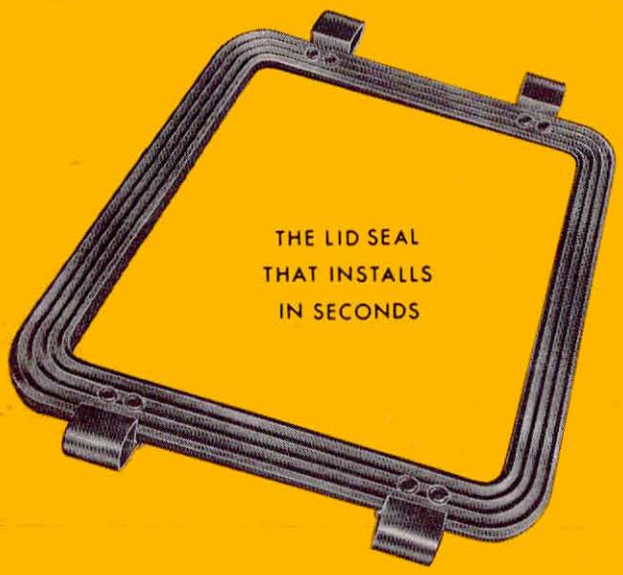

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IN SECONDS

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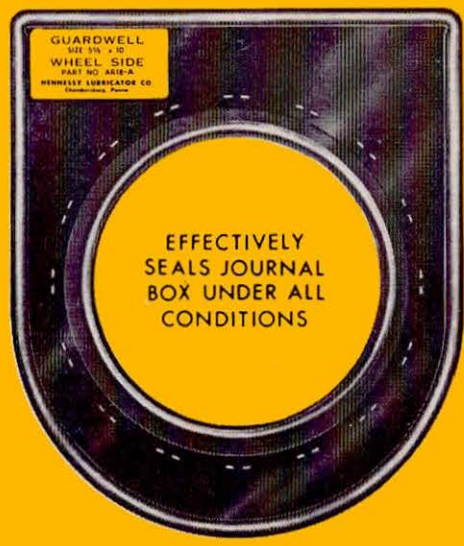

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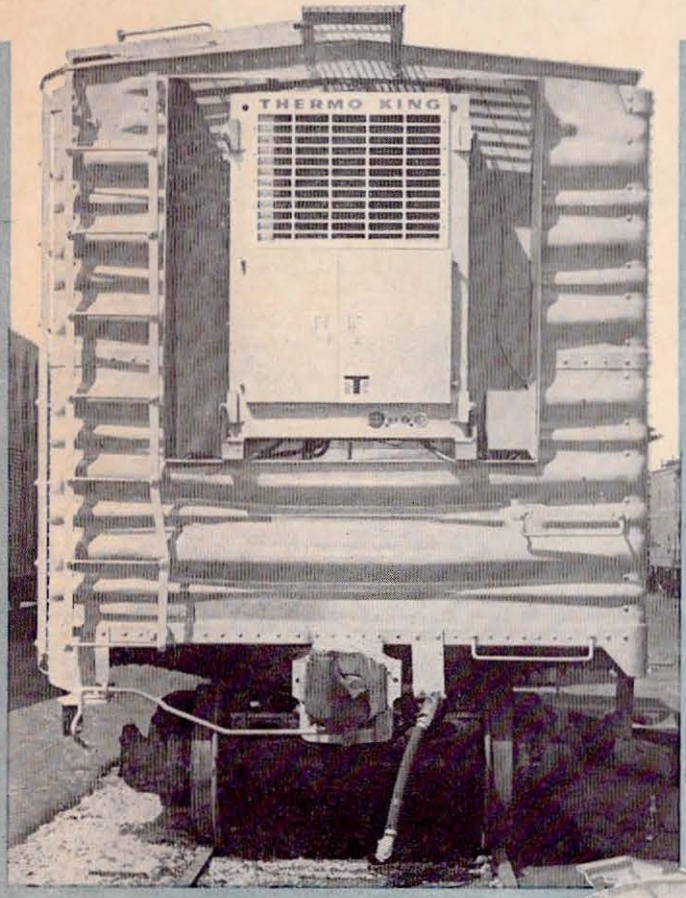

- Increases interior length from 33′ to 38′ to add 274 extra cubic feet in 40′ ice cars.
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THE ACTION PAGE

Daylighting the loss-and-damage problem

Loss and damage prevention has never been one of the glamour jobs on the railroad. Traffic men figured the rates, sold the service and operating men got trains over the road. They seldom worried much about what the L&D-prevention men said. In the era before competition, prudent margins were built into rates to take care of claims. And for years the L&D-prevention crowd labored in a tunnel that got deeper and darker.

The problem worsened as competition peeled off thick layers of the industry's profitable traffic. Force reductions contributed to rising L&D trends —there were fewer and fewer OS&D (over, short & damaged) clerks around to make inspections of alleged L&D as the industry's agency network contracted under the pressure of reduced traffic. Operating moves to counter competition (longer, faster trains, bigger cars) also contributed to rising L&D trends. By the early Sixties, L&D was a serious problem indeed. Some railroads were paying out more than $3 per $100 of revenue for L&D claims. In 1961, a year of shrinking business and profit margins, the industry's L&D bill came to about 31% of net income.

Millions for new equipment

Hundreds of millions were spent by railroads on equipment designed to reduce L&D—but L&D trends still skyrocketed. The only comfort in the situation was voiced by one veteran L&D-prevention officer a few years ago. He said, "One shudders to think what L&D payout would have been without cars tailored to commodities and equipped with devices aimed at minimizing L&D."

It was a paradox. Industry spending for such equipment was at an all-time high—and so was the L&D bill. Another thing that was at an all-time high was the need for transportation-quality control. Railroads were fighting a competitive battle for survival.

And just when the L&D outlook was darkest, the experts began seeing some daylight. In just a couple of years the L&D-prevention specialists skillfully parlayed some new tools and new allies (and some rather substantial top management support) into programs that look like a good bet for making rail transportation a quality service. The war against L&D has spread to every point of the shipper-receiver cycle. Shippers report a dramatic betterment in the once-dismal L&D outlook (see the Traffic Poll, p. 72).

Data and knowledge secured from computer analyses of claims and OS&D reports have given the experts some awesomely detailed facts to work with. Substantial help came to their aid from the industry's force of special agents. This pool of men —already skilled in investigation and reporting techniques, and operating from the industry's established protection network—is providing L&D-prevention men with increasingly valuable help.

Pinpointing anti-L&D work

What does it add up to? A lot more than the still-rising L&D trends would indicate. For the first time ever, the dark, complex problems behind L&D are being daylighted. L&D-prevention men, thanks to L&D-performance patterns showing up in computer printouts, know more and more clearly where to concentrate time, money and effort.

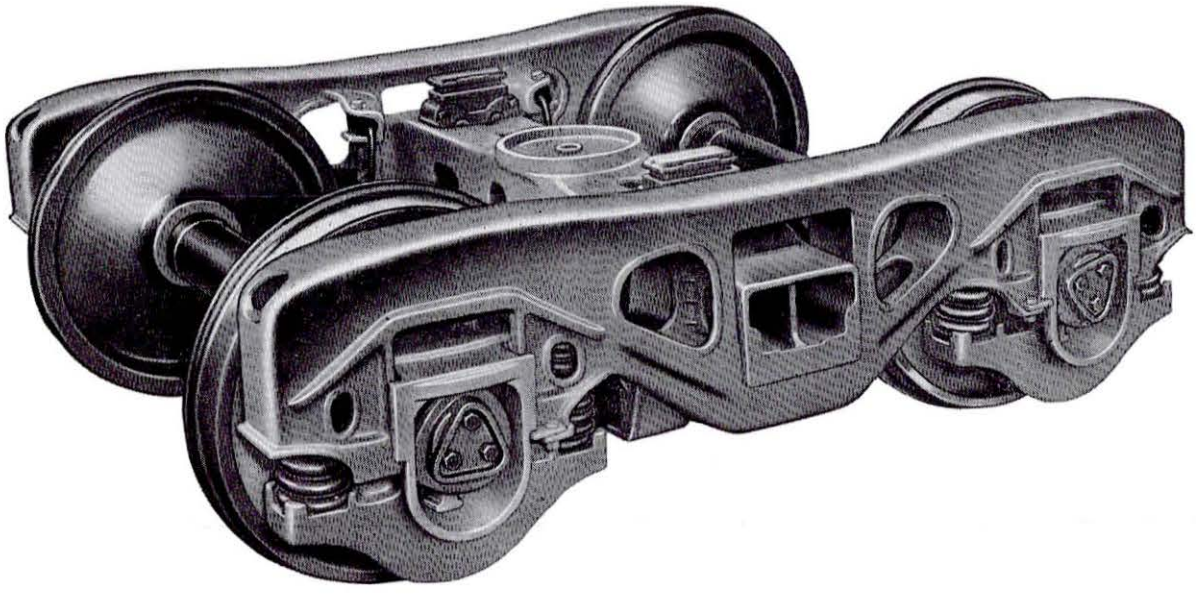
The new ability to pinpoint L&D by commodity, equipment, shipper, consignee and station leaves little doubt that industry quality-control programs will soon bring the L&D problem under control—if the industry keeps up the pressure.

It will take even more effort to get the job done. Despite the powerful new allies L&D-prevention men have found in the industry's computer men and special agents, L&D will continue to be a serious problem if there is not more across-the-industry effort. Some railroads have not yet done their share of the work. Top industry leaders point toward the need for industry-wide effort if quality-control is to work. There is already some indication that railroads failing to take appropriate steps to combat L&D will be shouldering an ever-increasing L&D burden as neighborhood systems pinpoint and isolate places and practices where the damage is done.

The staggering sums that railroads have already spent (and will be spending) on equipment designed to minimize L&D is reason enough for substantial quality-control programs—if railroads are to get maximum benefit from such investment.

An even greater reason for expanded industry-wide effort is, of course, the competition. Damage-free handling is a must if the industry is to win—and hold—customers.

L&D-prevention men are on the edge of an exciting era. They have already structured the basic approaches that will be taken when the industry finally goes after a total solution to transportation-quality problems. It seems to us the L&D-prevention men rate some long overdue recognition.



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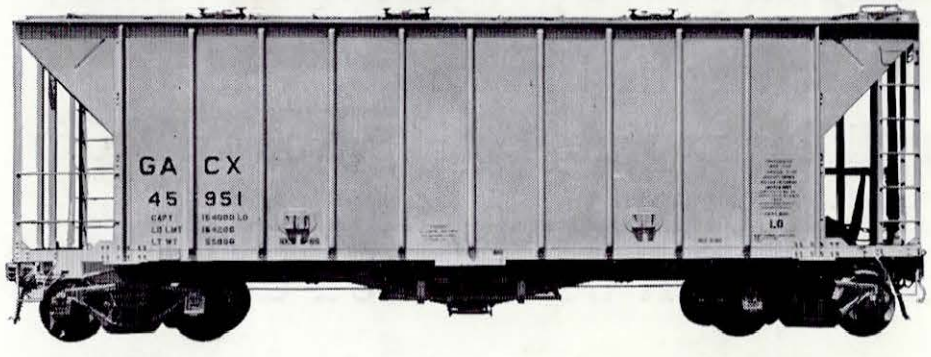

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